The Builder.

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ILLUSTRATIONS.

Jardine Hall, Dumfries. As Enlarged and Remodelled.—Mr. E. J. May, Architect:—
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Dining-Room ..... *Double-Page Ink-Photo.*
Principal Staircase ..... *Single-Page Ink-Photo.*
Entrance Stairs ..... *Single-Page Ink-Photo.*
Entrance Vestibule ..... *Single-Page Ink-Photo.*
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The Gas Industry.

MOST of our readers are accustomed, in the ordinary routine of business, to deal frequently with cubical measurements of capacity and space, but the most expert will experience difficulty in grasping an accurate conception of the space occupied by 34,000 *million* cubic feet; a measurement which corresponds approximately with the total volume of gas manufactured in one year by the three London gas companies. To produce this stupendous quantity of gas about 3¼ million tons of coal are carbonised, one ton of coal yielding a little more than 10,000 cubic feet of gas; in addition, a large quantity of oil has, of late years, been used for enrichment purposes.

A cubic foot of gas on combustion yields approximately half a cubic foot of carbon dioxide, and an adult person exhales 0·6 of a cubic foot of carbon dioxide per hour; consequently London's gas consumption produces about 17,000 million cubic feet of carbon dioxide per annum, which exceeds considerably the amount of carbon dioxide exhaled in a year by a population of three million adult persons. The production of this carbon dioxide, in addition to the vast quantity yielded by the coal and coke consumed for domestic and manufacturing purposes, together with that exhaled by the animal population, is of itself sufficient to account for the rapid decay of soft limestones in the moist atmosphere of London; for, notwithstanding the effect of wind and diffusion, much of the carbon dioxide dissolves in the frequent rains and water-saturated fogs, and forms a solution in which the calcareous stone is soluble.

The amount of sulphurous acid produced by the combustion of gas during the year is also very considerable, although it is but trifling when compared with that evolved from the coal burned by householders and manufacturers.

At the commencement of the present century the gas industry was in its infancy, for little more than a hundred years have elapsed since Murdoch, the founder of the industry in this country, first lighted his Cornish home with coal gas. At the present date, almost every town of importance in Europe, America and Australasia has its gas works, and those erected in Asia and Africa are neither few nor insignificant. In this country coal has been almost the sole source of gas up to the present time, but the use of oil and water gas has been steadily becoming more general for many years past, while petroleum spirit has also been largely adopted for enriching the gas obtained from ordinary gas coal. Formerly, cannel coal, which yields a gas of greater illuminating power than the bituminous coal, was almost universally used for enriching purposes, but the increasing scarcity and price of cannel induced gas manufacturers to introduce other enrichers, and when a carburetted water gas plant has been adopted, the gas manager seldom forsakes it.

The item, 1,648 million cubic feet of "oil gas," in last year's annual report of the London Gas Light and Coke Company, is an indication of the increasing production of gas other than coal gas, while the recent appointment of a Departmental Committee by the Home Office to enquire into the use and properties of water gas, is evidence that the supply of this description of gas has become sufficiently large to require Government attention. Carburetted water gas has been used for a long time in the United States of America, but it has not been satisfactorily proved that its use has caused more fatalities than would have occurred with coal gas. The notice, "Please do not blow out the gas," which is sometimes seen in American hotels, is quite as necessary where coal gas is supplied as with water gas; and that the notice is not altogether unnecessary in England is shown by the recent tragedy in Liverpool, where a Norwegian, apparently through ignorance, and not with suicidal intentions, blew out a gas flame from a burner passing about seven feet of gas per hour, and was found dead the next morning.

When petroleum spirit is used for carburetting coal gas, it is usual to allow the gas after purification to come into contact with a slow stream of the spirit; a portion of the spirit then vaporises, mixes with the coal gas, and thereby enriches it.

The process of coal gas purification usually adopted in the larger works is carried on in the following stages. When the gas is driven off from the heated coal in the retorts it is, of course, at a high temperature, but it passes at once through the ascension pipes to the hydraulic main, where much of the tar and water vapour condenses. The gas next passes through the condensers, where it is cooled in order to condense out the remaining tar and other condensable matter; then it passes through washers and scrubbers, where it is washed with water and parts with most of its ammonia, and the remaining particles of tar, in addition to a considerable amount of sulphuretted hydrogen and carbonic acid. From the scrubbers the gas proceeds to the purifiers, where practically the whole of the carbonic acid and most of the sulphur compounds are removed. Finally, it is passed into the unsightly gasholder, and is ready for distribution in the district.

The foregoing represents the most commonly adopted method of procedure, and it will be seen that the gas is subjected to a very rigorous cleansing before it is allowed to appear in the district. In the early days of gas-making, the carbonic acid was often allowed to remain in the gas, and greatly diminished its illuminating value; the sulphur compounds remained, and rendered the gas more objectionable for indoor use, and the valuable ammoniacal liquor was run to waste, while the value of the tar was by no means fully appreciated. At the present time, stringent regulations exist in most towns as to the purification and illuminating power of the gas.* Most of the sulphur is abstracted and used for making sulphuric acid, the ammoniacal liquor is utilised in the manufacture of sulphate of ammonia, and upon the tar the extensive aniline dye industry mainly depends.

Great as the improvement in the quality of the gas supplied to consumers has been, the success of the industry has probably been more dependent upon the advance which has been made in the methods of the utilisation of gas. Some years ago a lighting power equivalent to three and a half candles per cubic foot of gas was considered a satisfactory yield, then a great advance was made by the introduction of the regenerative burner giving an equivalent of ten candles per cubic foot, and now, with the aid of the incandescent mantle, fifteen candles per

* See "London Gas, its Supply and Quality," vol lxxiv., p. 223.

cubic foot is not an uncommon yield. More remarkable is the new burner for incandescent lighting which is about to be placed on the market by the Welsbach Company, and which they claim will give from 25 to 30 candles per cubic foot of gas.

It is a peculiarity of modern times that the demand for more artificial light has steadily increased, and although the lighting of both streets and dwellings has continually improved during the present century, yet the demand shows no indication of abatement. As a matter of fact, a gas consumer who adopts a burner which gives double the lighting value, but consumes only the same quantity of gas as the discarded burner, usually takes advantage of the increased light in preference to reducing the gas bill, and the ever-increasing brilliancy of shop lighting is evidence that effective lighting is an attraction to customers.

Many readers will probably remember the time when the popular opinion was that the electric light and cheap oil would push the gas industry almost out of existence in civilised towns, but time has shown that there is room in the market for gas as well as for its rivals, for notwithstanding the constantly growing length of electric lighting wires in all directions, and a huge consumption of oil, the output of gas all over the kingdom continues to increase. Owing, no doubt, to the introduction of the incandescent light, the penny-in-the-slot meter, and especially to popular gas-heating and cooking appliances, gas was never more largely used than at present, and whether it be manufactured from coal, oil, oil and steam, and steam, or other materials, it is more than probable that the gas industry will continue to flourish, in spite of the growth of its rival industries, for many generations to come. No review of the gas industry as it exists in the present year would be complete without mention of acetylene, the latest gaseous illuminant, which has attracted universal attention, and has already been adopted in some few places for public lighting. All important particulars relating to this gas have, however, been recorded in previous issues,* and no further reference to it is therefore necessary at present.

ART AND ARCHITECTURE IN THE CASTLE HOWARD MANUSCRIPTS.

EVERY ONE knows how many art treasures there are in the great houses of England, but it is only within the last few years, in consequence of the publications of the Historical Manuscripts Commission, that the wealth of literary and historical material in these same mansions has become known. One of the most recent and one of the most important of these publications is the volume in which are printed a large number of the manuscripts which have been preserved at Castle Howard, the home for many years of the Earls of Carlisle. Some of these give us glimpses of men famous in the art and architecture of England, of Reynolds and Vanbrugh; others describe the state, the character, and the construction of some of the most notable houses in England. It will, we think, be of interest and value to print some of these materials, for it is impossible for any one but a historical student to push his way through this huge and badly-printed volume. In order of time we come first in contact with Sir John Vanbrugh, a man famous not only as an architect, but of much versatility, a play writer, and a close observer of all contemporary events. Most of the letters printed in this volume touch on social and political events, and it is a matter of regret that the editor has not thought fit to include more of Vanbrugh's which refer to the building of Blenheim and to his lawsuit with the Duke of Marlborough. A note informs us also that "other letters treat of architectural matters in reference to Castle Howard and other edifices." That letters on such subjects should be omitted by the Commission is highly characteristic of this country, in which anything relating to art is supposed to be of little or no interest; but we must protest against the non-publication of such letters, for these reports are intended to place within the reach of students of every kind the materials which would otherwise be inaccessible to them.

It was in June, 1722, that the death of the Duke of Marlborough took place, and Vanbrugh wrote a long letter to Lord Carlisle giving various particulars of his fortune. He concludes as follows:—

"Sure, if ever any such thing as erecting monuments in open places was right, it would be so in this case. But I fancy the Duchess will prevent him laying near her, though it would not make her very melancholy neither.

"The place I propose is in Blenheim Park, with some plain but magnificent and durable monument over him." (Page 41.)

A week later Vanbrugh writes again on the same subject, with some very sensible remarks on the folly of gorgeous funerals:—

"1722, July 19, London.—I believe my Lord Godolphin would have liked very well to have had the Duke of Marlborough buried in the Park, with a very good monument over him; but the Duke directs in his will that they should bury him in the chapel at Blenheim. Here is a pompous funeral preparing, but curbed and crippled by her Grace, who will govern it by her fancies, amongst which there is but one good one, and that is, that she'll pay for it. I don't know whether it won't cost her ten thousand pounds. What a noble monument would that have made, whereas this idle show will be gone in half an hour and forgot in two days. The other would have been a show, and a noble one, to many future ages." (Page 41.)

At a later period in this correspondence, in the time of the fifth Earl of Carlisle, who was a lover of art and of literature, we see something of Reynolds. He painted a portrait of Lord Carlisle. The latter, through the financial difficulties in which he was placed by the resistance he gave to Charles Fox, was for a long time pressed for money. But it does not seem as if Reynolds were an importunate creditor. George Selwyn, who knew him well, writes to his young friend, to whom he was a sound and sincere adviser, about this debt:—

"The debt to Sir Jos[hua] Reynolds does not weigh much with me; we know that it was contracted long ago, and as to appearances I think they are better saved by the pictures being in your own house than in his. He seems a good natured man. You know that *cette qualité je l'ai mise à l'épreuve.* He must be sure of his money, and cannot want it immediately; he knows also that your affairs are *dérangées pour le moment.* I hope that if he puts any false colours on your conduct towards him, that they will be like all his other colours, of a very short duration. But I think that he will not. Therefore, my dear Lord, do not represent to yourself things more disagreeable than they really are. You ask, if he had any orders to finish these pictures? None that I know of, but perhaps that he took that for granted." (Page 296.)

Among the letters of the Early Georgian period are several from Sir Thomas Robinson, of Rokeby Park, who held several important offices during his lifetime. These documents contain descriptions of some noticeable country seats in 1731; more especially Houghton in Norfolk, the home of Sir Robert Walpole. Here is an extract from the letter in which he writes of this place:—

"I believe it is the best house in the world for its size, capable of the greatest reception for company, and the most convenient state apartments, very noble, especially the hall and saloon. The finishing of the inside is, I think, a pattern for all great houses that may hereafter be built; the vast quantity of mahogoni, all the doors, window-shutters, best staircase, &c., being entirely of that wood; the finest chimnies of statuary and other fine marbles; the ceilings in the modern taste by Italians, painted by Mr. Kent, and finely gilt; the furniture of the richest tapestry, &c. the pictures hung on Genoa velvet and damask; this one article is the price of a good house, for in one drawing-room there are to the value of 3,000*l.*; in short, the whole expense of this place must be a prodigious sum, and, I think, all done in a fine taste. There is only one dining-room to be finished, which is to be lined with marble, and will be a noble work. The offices are also built of Mr. Cholmley's stone, and are well disposed and suitable to the house. In one wing are the kitchens and all necessary rooms belonging to a table, servants' halls, &c., and over head are several very good lodging rooms; in the other are the brewhouse and washhouse, &c., and a very magnificent hall for a chapel, and a large room which looks on the parterre, designed for a gallery, there being the same in the opposite wing for a greenhouse.

The enclosure of the Park contains 700 acres, very finely planted, and the ground laid out to the greatest advantage. The gardens are about forty acres, which are only fenced from the park by a *fossé*, and I think very prettily disposed. Sir Robert and Bridgeman showed me the large design for the plantations in the country, which is the present undertaking; they are to be plumps and avenues to go quite round the park pale, and to make straight and oblique lines of a mile or two in length, as the situation of the country admits of. This design will be about twelve miles in circumference, and nature has disposed of the country so as these plantations will have a very noble and fine effect; and at every angle there are to be obelisks, or some other building. In short, the outworks at Houghton will be 200 years hence what those at Castle Howard are now, for he has very little full-grown timber, and not a drop of water for ornament; but take all together, it is a seat so perfectly magnificent and agreeable, that I think nothing but envy itself can find fault because there is no more of the one, and I scarce missed the entire want of the other." (Page 85.)

After Houghton, Sir Thomas goes to Euston and to Ickworth. How, in the days of a successor of the Lord Bristol who then owned the latter property, it became the home of many art treasures, is well known. When Robinson wrote of it the present mansion did not exist.

"I was two days at the Duke of Grafton's, at Euston. The house was built by his mother's father, and, though of so short a standing, is ready to fall, being so very slightly finished, and all the materials so very bad. The garden of about eighty acres is fenced on one side from the park by a brick wall in a *fossé*, as at Sir Robert's, and the slope from the terras in the garden so wide, that the wall is plante[d] with fruit trees, and so disposed that they have a sufficient quantity of sun to ripen their respective fruits. On the other side the fence, between the garden and the park, is a very pretty rivulet cut in a winding and irregular manner, with now and then a little lake, &c., and over it in one approach to the house is a wooden bridge built by Lord Burlinton, with an arch that appears almost flat, and from hence you have a beautiful prospect of the water

* Vol. lxxiv., pp. 252 and 293.

which is indeed delightfully disposed. The park is about nine miles about. The Duke has hitherto done very little to it, but is now entering into a taste, but nature has done so much for him, and his woods and lawns are disposed in so agreeable a manner, that a little art and expense will make it a most charming place. He has a wood out of the park something like Pretty-wood at Castle H[owar]d, which might be made a noble thing.

In my way home, I spent a day with Lord Bristol at Ickworth, which is by much the finest park I ever yet saw, being about 1,200 acres, and above 25,000*l.* of exceeding fine oaks, &c. Within the pale, the disposition of the woods, lawns [and] valleys (where for a small expense he might have any quantity of water), and the rising hills covered with large old timber, are all truly magnificent and agreeable. They live in a tenant's old house in the park, so very bad a habitation, that I am astonished how so large a family have so long made a shift in it. The old mansion-house was pulled down about twenty years ago, and those materials and others sufficient to build a new house were led to another situation, and the new one determined to be built; but an ill run at play (as fame reports) stopped the design, and most of the wood, brick, and stone have since been used in tenants' houses. His Lordship has been at very little expense, but nature has been so much his friend that little assistance is wanting from art." Page 87.

In 1734 Sir Thomas describes another series of visits, one of them being to Wentworth, the seat of the FitzWilliams.

"If in some things Lord Strafford's fell short of what I was told of it, I was very agreeably surprised in finding this place improved in all respects since I was last here infinitely beyond my expectations. What may properly be called the house is about the same length in front as Lord Tilney's (260 ft.); that front towards the garden is entirely finished, being partly patch-work of the old house and partly a new building, and excepting a very fine library, little can be said in its praise, but when you come to the court front, amends will be sufficiently made to all lovers of architecture, and when finished 'twill be a stupendous fabric, infinitely superior to anything we have now in England; the front of the house and offices (exclusive of the stables) being a line of 606 ft. built of the most beautiful hewn stone and the best masonry I ever saw; these offices on each side the house are entirely finished. The upright of the house will be in the same style as Lord Tilney's, only this portico will have eight columns in front.

The hall will be 64 ft. by 53 ft. deep, and 48 ft. high, a prodigious room; on each side of it are three rooms, all six 24 ft. high; two of them will be 36 ft. square, two 26 ft. in front and 38 ft. deep, and two 24 ft. in front and 36 ft. deep. This whole front will contain twenty-one windows, five of which are now just covered in. The whole finishing will be entirely submitted to Lord Burlington, and I know of no subject's house in Europe [which] will have seven such magnificent rooms so finely proportioned as these will be. This part of the house will be built entirely new from the foundations, and very conveniently disposed to lay it to the old house; and as Lord Tilney's has hitherto been thought so fine [a] house, as some people imagined would never have been excelled, I am very glad for the honour of Yorkshire to see a pile going forward here that will in every respect infinitely exceed it. The outworks are also large, and my lord has a very fine command of wood and water; but none of the finishing strokes which give the beauty to the whole are yet completed.

As it is impossible in one place or country to have everything, I must now acquaint your Lordship, if the axle-trees of your coach are not very strong, you will find it difficult to get thro' the country, the roads being intolerable, by the vast number of iron-stone pits, coal pits, and woods in the country. I have never yet been out, but I have met carts and waggons overthrown, for there have been such plentiful rains of late in this country, that the roads are almost as bad as in winter.

After saying so much of this place, I can't finish my letter without speaking something of the master and mistress of it, who really live as happily together, as easy to those with them, and with as much hospitality to their neighbours and goodness to their children and servants as in any house I ever was in. I never spent six days more agreeably, and am sorry to be obliged to leave them so soon. When I reflect how soon your Lordship will be here, I beg pardon for taking up so much of your time; I desire my compliments to the ladies and Colonel Howard.

P.S.—The kitchen offices here are particularly worth seeing, and are very noble; and I would recommend the apartments for the poultry to Lady Irwin's observation, where she will find great variety of the feathered specie[s], all magnificently lodged, and well attended on." Page 136.

If we come nearer London, and take a later period, we have an interesting account of the Duke of Queensbury's villa at Richmond. He was one of the most prominent figures in the society of his day. George Selwyn, writing in February, 1782, says that he is "laying out immense sums upon his house at Richmond. It will be an expensive villa to him with all its circumstances." In 1786 we again hear of this house. This time, however, Selwyn gives a description of part of it.

"The Duke [of Queensberry] dines with me when he is here, a little after four, and when we have drank our wine we resort to his great hall, *bien éclairée, bien échauffée*, to drink our coffee, und hear Quintettos. The hall is hung around with the Vandyke pictures (as they are called), and they have a good effect. But I wish that there had been another room or gallery for them, that the hall might have been without any other ornament but its own proportions. The rest of the pictures are hanging up in the Gilt Room, and some in a room on the left hand as you go to that apartment. The judges hang in the semi-circular passage, which makes one think that, instead of going into a nobleman's house, you are in Sergeant's Inn.

There is, and will be, a variety of opinions how these portraits should be placed, and with what correspondence. I have my own, about that and many other things, which I shall keep to myself."—P. 646.

Richmond of the present day, so respectable and so monotonous as regards its houses and their inhabitants, can scarcely be recognised in this little sketch, in which we see two men of society and of political influence spending their evenings in what was then, perhaps, the most fashionable spot near London.

Of this characteristic of the place we have a more vivid glimpse in a letter written by Selwyn in 1790. We give it because it brings back a state of society in connexion with Richmond which must add to the interest of the place in the present day.

"For Richmond news, *les voici*. Snow had his concert at the Castle the night before last, and when it was over a string of his harpsicord burst, for the poor man was arrested. Mr. and Mrs. Darrell, on the Hill, are cousins to the Darrells of the Vale. They live in the house that was built for the Duke of Ancaster. They are very good kind of people; they have an *assemblée* and a bread and butter ball, once a week, on a Friday. It begins soon after seven, and ends soon after eleven; French and English, old and young.

The Duke is here; he dines with me every day, and seems more and more delighted with Richmond. We went together last night, and sate an hour at Lady Di's with Mr. and Mrs. Boverie. Lord Robert was there, who does not want a relish for rural amusements. Peg Jeffryes *en est peu édifiée*, she keeps at home as if there was a plague in one part of the town, not knowing how free she herself is from infection." p. 692.

The fact is that Selwyn communicated the news of Richmond to his country friends very much as one might now write from Switzerland or Nice to friends in Cumberland or Yorkshire. Fashionable society then gathered on the hill above the Thames as it does at the end of the nineteenth century on the shores of the Italian lakes and of the Mediterranean.

NOTES.

The Temple of Apollo at Phigalia.

DR. SAUER, whose name is familiar to English students of archæology from his able work on the attachment marks of the pediments of the Parthenon, has lately turned his attention to the metopes of the Temple of Apollo at Phigalia. These metopes are, unfortunately, in a very mutilated condition, but Dr. Sauer has succeeded, he thinks, in establishing the following points. The metopes were decorated with sculpture at the ends only, not at the sides (this, in fact, would seem to have been rather the rule than the exception). They were twelve in number, and stood not outside the exterior colonnade, as is the case with the Parthenon, but on the interior porticos of the prodomos and opisthodomos. Those decorating the south side are mutilated beyond recognition. The six on the north side fall into two groups, three dealing with Zeus, three with Apollo. The subjects represented are Zeus as an infant watched over by two nymphs, one playing on the crotala, the other on cymbals; the story of Cronos and Rhea, a very rare subject in ancient art; and Zeus and Hera. The Apollo subjects are less clearly made out, but on one of them Orpheus is represented. It is to be regretted that the papers in which Dr. Sauer deals with this subject appear in two different periodicals. He begins in the *Berichte* of the *Sächsige Gesellschaft d. Wissenschaften* at Leipzig, and ends in the *Athenian Mittheilungen* xxi., 333.

London Topographical Society.

A SOCIETY has been formed, under the title of "The London Topographical Society," the object of which is the publication of a complete set of London maps, views, and plans in facsimile, so that every period and every change of importance may receive illustration in the issues of the Society. The state of localities and districts at various periods will also be illustrated by the reproduction of parish maps, tithe maps, surveying plans, &c. A uniform size of paper will be adopted, large maps being divided and small ones printed with large margins, and every one dated, so that all may be arranged in portfolios in chronological order. The Topographical Society which was formed in London in 1880 has been merged in this new society, and its publications acquired; viz.: reproductions of Van den Wyngaerde's View of London, Hoefnagel's Plan of London, and Visscher's View of London. As new publications for the present year the London Topographical Society propose Porter's View of London (1660), Norden's Map of London (1593) and Norden's Map of Westminster (1593). Among the committee are Lord Welby, Mr. Edwin Freshfield, Mr. Laurence Gomme, Mr. Hilton Price, Sir Walter Besant, Mr. H. B. Wheatley, and others. The Hon. Secretary is Mr. T. Fairman Ordish, and the offices of the Society are at Warwick House, 8 Warwick-court, Grays Inn. Such a scheme ought to be of the greatest interest to residents in London, and indeed to Englishmen generally, and we hope the Society will meet with such support as will enable it to carry through its intentions, and provide a complete and connected illustration of the topographical history of the capital.

Relics of Old Paris.

THE excavations in progress for some months back, on the left bank of the Seine, for the prolongation of the Orleans railway to the Quai d'Orsay, have been tolerably fertile in antiquarian finds. At the entry of the Rue des Ecoles one of the piers has been discovered of the ancient Porte Saint-Victor, which formed part of the fortification wall of Philippe Auguste, and a portion of the wall itself has also been discovered, besides a specimen of an ancient cannon of primitive form. Towards Rue Lagrange, a little further on, a subterranean vaulted passage has been brought to light, formerly connected with the old Hôtel Dieu; and, near Rue de la Harpe, some remains of sculpture, pottery, and coins. Most of these objects have been placed in the Carnavalet Museum.

Westminster Building Accident.

WE learn from the architect to the London County Council that the sketch plan which we gave of the portion of Abbey Mansions which fell, in our last week's issue, is not correct as to the position of the pier, which was ultimately built at right angles to and not parallel with the external wall of the building, following the line of the 18 in. cross wall in the basement. We are not responsible for the error; we applied to the coroner for an inspection of the plan of the building, and the set of working drawings from which we made our sketch was brought to our representative by the assessor, and we were therefore entitled to conclude that it was what we had asked for. The difference, however, is only a matter of detail; in either case it is a pier of a certain size standing alone, without adequate support in proportion to the height to which it was carried, and that is the main point. We may observe, in reference to the inquest, that we believe this is the first occasion on which a coroner sitting in inquiry on a building fatality has been assisted by a professional assessor. It is a precedent which may well be followed in future cases of the same kind.

The Site of the Cripplegate Fire.

AFTER some six months of negotiations, we now hear that there will be practically no street improvements whatever on the area of the Cripplegate site. At the instance of the local Ward Committee, the Corporation had, though somewhat late, taken steps in respect to a proposed re-arrangement of the thoroughfares on the area affected; but owing to the County Council having declined to contribute to the cost of these improvements (which were estimated approximately at 600,000*l.*), the Corporation, at its recent meeting at the Guildhall, finally determined to drop the matter. We do not propose to examine the reasons why the County Council refused to participate in the improvement scheme, but we certainly consider that it is rather a disgrace to a metropolis like London to have about four acres of property burnt down without one of the main causes of the conflagration, that is, the narrowness of the thoroughfares, being remedied. As a matter of fact, we believe that neither the Ward Committee, the Corporation, nor the County Council really approached the subject seriously, and that influence was even brought to bear on the former bodies by those primarily interested in having the *status quo* maintained for their business premises, with the view of obtaining a "do-nothing" report. Unfortunately, also, the Building Act itself gives no powers for making any material improvement in the construction of the buildings on the area. As far as regulations are concerned, Cripplegate might be practically built over as it stood, as was the case with St. Mary Axe, after the great fire of 1893. Fortunately, however, the district has a popular and energetic District Surveyor, whose advice receives due consideration from most of those affected, and under his influence there will probably be an improvement in the class of building in the locality, but that is all.

Lifts at the Law Courts.

IT appears that the Chief Commissioner of Works is really, after many years' delay, considering whether he should not place lifts in the Courts of Justice. These have long been a necessity: no public building of the same size and importance in a European capital would be without them, and we cannot see why there should be any further delay in the matter. They are needed, and they should be constructed. But it shows how behind the age our public officials frequently are, when it is only by Parliamentary action, and other outside pressure, that necessary works such as these can even be taken into consideration. Perhaps, while the minds of the Board of Works officials are directed to the Law Courts, they will also give attention to the warming and lighting of the offices, which is about as bad as it can be.

Guide Posts on Highways.

THE present time—just the beginning of summer—when strangers begin to spread themselves over England, appears suitable to call the attention of County and Rural District Councils to the need for a still larger supply of guide posts on highways within their jurisdiction. The highway authorities differ much on this point. In some counties highways are well supplied, in others the wayfarer is often left without directions at spots where they are much needed. There should be more system in this matter. Direction posts in the country are nearly as necessary as street names in towns. Therefore, every County and Rural District Council should make it a general rule to place guide posts wherever roads meet or branch off. Indeed, we would go further and say that this should not be left to the discretion of these authorities; they should be obliged to do so by a section of the Highways Acts, which it is time were consolidated into one statute.

Health Exhibition Dublin.

WE have received the programme of a Health Exhibition which is to be held in Dublin from August 18 to August 27, in the buildings and grounds of the University, in connexion with the Hygienic Congress to be held in Dublin at the same time. The exhibits will be classed under the following heads:—science; public hygiene; domestic hygiene; water supply; sewage treatment and disposal; drainage and plumbing; heating, lighting and ventilating appliances; personal hygiene; electrical installations and appliances; disinfection; locomotion; and miscellaneous. No important exhibition of this kind has been held in Dublin for fourteen years, during which time a great deal of progress has been made in sanitary science and practice, and the Exhibition Committee earnestly invite exhibitors to put forward only the best modern appliances, so as to make the exhibition representative of the state of sanitary science and practice at the present time. Applications for space should be made as early as possible before July 15, to Mr. G. M. Ross, Hon. Secretary Health Exhibition Committee, 61 Dawson-street, Dublin.

Sewage-Purification.

WE have received a small pamphlet on "The Present Position of the Sewage-Purification Problem"* from Mr. H. Gilbert Whyatt A.M.Inst.C.E., the Deputy Borough Engineer of Salford. The matter it contains was delivered as a lecture before the Lancashire and Cheshire Branch of the Sanitary Inspectors' Association on February 12, 1898, and it can be recommended as a clear, concise, and accurate survey of the recently-ascertained principles of sewage-purification. More might with advantage have been said about the filter designed by Col. Ducat, as it contains features which do not appear in any others; the features referred to (of which the author makes no mention) are the chamber for warming the air supplied to the filter in winter, and the open drain-pipes forming the sides of the filter and laid sloping inwards so that the sewage does not escape, although air is freely admitted. The lecture was also an appeal against the "agnostical immobility" of the Local Government Board with regard to bacterial systems of sewage-purification, but Mr. Whyatt will doubtless be the first to acknowledge that the appointment of Commissioners by the L.G.B. for the purpose of investigating these very systems, although *post hoc*, is not *propter hoc*.

Electric Railway Motors.

THE paper read by Professor Carus-Wilson last week to the Institution of Electrical Engineers on the design of electric railway motors for rapid acceleration was a particularly able contribution to electro-dynamics. It seems probable that this science will in the near future assume the same relation to the theory of the electric motor that the science of thermo-dynamics already bears to the steam-engine. The method of treatment adopted by the author was very similar to that which he has already given in his recent Cantor Lectures at the Society of Arts. The novelty of his methods rather took away from the interest of the discussion, as speakers had not had time to thoroughly weigh the somewhat radical innovations that the author is introducing into the theory of the subject, and his excellent book was only published a week or two ago. As Professor Carus-Wilson has lived for several years in Canada, and naturally is familiar with the everyday working of electric railways, he rather assumed more knowledge on the part of his audience than perhaps was justified He was taken to task by some of the speakers for his nomenclature, for neglecting air friction, for not saying what effect roller bearings would have on the friction, &c. The objections rather show the soundness of his paper, as he had to be criticised on side issues. Professor Perry regretted that so few experimental data on the subject were published, and rather inferred that the author ought

* Printed for the author, from whom it may be obtained.

to have given actual results to illustrate and verify his solutions. The author, however, has solved the main problem in a very satisfactory manner, and recent experimental results on an English railway agree very closely with his solution.

Institution of Civil Engineers.

THE annual Conversazione of the Institution of Civil Engineers took place on the evenings of Thursday and Friday last week, and, as usual on such occasions, the capacity of the building in Great George-street was tested to its utmost limits. The guests were received by the President, Mr. W. H. Preece, and Miss Preece, and were treated to various kinds of scientific recreation, thoughtfully diluted with excellent music. During each evening Professor Turner exhibited a number of views illustrating the last solar eclipse Captain Abney explained Dr. Joly's process of photography in natural colours; and short lectures were given from time to time by Mr. J. Gavey on wireless telegraphy. A large collection of engineering models and scientific apparatus was on view in the library and reading-rooms, while other parts of the building were given up to the phonograph, cooking by electricity, and such matters. By far the least portentous exhibit as far as apparatus is concerned was Mr. A. S. E. Ackermann's surface tension boat, a little paper vessel which is propelled by means of spirit of wine being allowed to leak from the stern, the action of the spirit being to reduce the surface tension of the water behind the boat. Altogether the conversazione was a great success, and the guests must all have had very enjoyable evenings.

Oxford-mansions, Oxford-street.

THIS block of residential flats is offered for sale by tender. It contains a total floor space of about 54,700 ft. superficial, and has four frontages of 100 ft. each. The block was built for Mr. Cripps, after the designs and plans of Mr. Augustus E. Hughes, in 1880-1, upon the site of Oxford Market (pulled down in 1880), which was built in 1720-1 for Edward Harley, second Earl of Oxford and Mortimer, but was not opened until 1732, as Allen says in his "London;" on the vane were the figures "1721." In his edition (1754) of Stow, Strype mentions that the market is "not much resorted to at present," and, so far as our recollection serves, it was but little frequented. Harley had acquired the property on marrying, in 1713, Henrietta, only child of John Holles, Duke of Newcastle; their only daughter and heir, Margaret, brought it in marriage—1734—to William, second Duke of Portland and Marquis of Titchfield.

Christ Church, Spitalfields.

IT is proposed to erect an open-air pulpit in the graveyard, and a tablet within the church, as a memorial to the late Dr. Billing, Bishop of Bedford, and formerly rector, during ten years, of the parish. Similar pulpits have been recently erected at Trinity Church, Marylebone, in memory of Prebendary Cadman (1892), and at St. Mary Matfelon, Whitechapel, as a memorial to Dean Champneys, who was rector for twenty-three years. In the latter instance the church, designed by the late E. C. Ayton-Lee, was burnt on August 26, 1880, and rebuilt by him. The Billing memorial recalls the memory of the famous pulpit-cross which stood in the churchyard (since Spital-square) of the Priory Hospital, founded in 1197 by Walter Brune and his wife Rohesia, which they dedicated to Christ and the Virgin Mary. The district's old name was Lolesworth, the dedication of the priory survives in the name of the parish for which was built, in 1714-29, at a cost of 60,000*l.*, the church by Hawksmoor; the fabric was decorated and repaired in 1866, at a cost of nearly 7,000*l.*, by the late Ewan Christian. The pulpit-cross, rebuilt in 1594, was pulled down during the Civil War. The Spital sermons, which the Bluecoat boys used to attend there, were after the Restoration revived at St. Bride's, Fleet-street; in 1797 they were transferred to Christ Church, Newgate-street.

Art Metal Exhibition.

THE Art Metal Exhibition, opened this week at the Royal Aquarium, appears to contain some very good work, and we shall give an article and some illustrations in our next issue. It is a great pity that it should be placed amid such incongruous and uninviting surroundings; it would have been much more likely to be a success in some better chosen locality.

ARCHITECTS' DUTIES: A FRENCH OFFICIAL STATEMENT.

THE annual calendar, or *Annuaire*, of the "Société Centrale des Architectes Français," for the present year, contains a report as to the professional duties of an architect towards himself and his professional brethren, towards his clients, and towards the contractors, which, as a formal profession of faith on the subject, is of some interest. It is signed by M. Guadet, by whom it was apparently drawn up under instructions from the Société, and countersigned by M. Charles Garnier, as President of the Société Centrale," which thus officially adopts the views expressed.

The following is the text of the document:—

"LES DEVOIRS PROFESSIONNELS DE L'ARCHITECTE ENVERS LUI-MÊME, SES CONFRÈRES, SES CLIENTS, SES ENTREPRENEURS.

La Société Centrale des Architectes français,

Considérant qu'il est nécessaire de préciser les obligations morales qui ont toujours été la règle de conduite et l'honneur des architectes véritablement dignes de ce nom;

Qu'il est nécessaire, en effet, que le public, les clients et les administrations puissent avoir connaissance des garanties qu'on est en droit d'attendre d'architectes exerçant honorablement leur profession,

Déclare que les principes qui régissent la conduite des architectes dans leurs relations avec leurs confrères, leurs clients et les entrepreneurs ou le personnel du bâtiment sont les suivants:

I.—Devoirs de l'Architecte envers Lui-Même et envers ses Confrères.

1. L'architecte est défini, par le Dictionnaire de l'Académie française, en ces termes:

'L'artiste qui compose les édifices, en détermine les proportions, les distributions, les décorations, les fait exécuter sous ses ordres et en règle les dépenses.'

Par conséquent, l'architecte est à la fois un artiste et un praticien. Sa fonction est de concevoir et étudier la composition d'un édifice, d'en diriger et surveiller l'exécution, de vérifier et régler les comptes des dépenses y relatives.

2. Il exerce une profession libérale et non commerciale. Cette profession est incompatible avec celle d'entrepreneur, industriel, ou fournisseur de matières ou objets employés dans la construction.

Il est rétribué uniquement par des honoraires, à l'exclusion de tout autre source de bénéfices, à l'occasion de ses travaux ou de l'exercice de son mandat.

3. Si un architecte a pris un brevet pour un produit concernant l'industrie du bâtiment, il ne l'exploite pas personnellement, mais il le vend à un industriel, en lui cédant tout ses droits de propriété pour l'exploitation.

4. L'architecte, n'étant ni commerçant, ni agent d'affaires, s'interdit toute opération qui donnerait lieu à des remises ou commissions.

Il s'abstient de faire, dans un but personnel, des annonces, réclames ou offres de services par voie de journaux, affiches, enseignes, prospectus ou tous autres moyens de publicité en usage dans les professions commerciales.

5. Il s'interdit de rechercher des travaux ou de la clientèle au moyen de concessions, commissions, remises sur ses honoraires ou autres avantages qu'il ferait à des intermédiaires, tels que gérants, hommes d'affaires ou mandataires quelconques de propriétaires, et en général tous agissements qui puissent rester secrets vis-à-vis d'un client soit actuel, soit éventuel.

6. Vis-à-vis de ses confrères, l'architecte s'interdit le plagiat, ainsi que la méconnaissance des règles délicates que la conscience impose aux artistes dignes de ce nom dans leurs rapports entre eux.

Il ne recherche pas la situation ou la clientèle acquise à un confrère. S'il est cependant appelé à recueillir cette situation ou cette clientèle, par suite du décès, de la retraite volontaire ou de la révocation d'un confrère par qui de droit, le nouvel architecte se considère comme le gardien de l'honneur et des intérêts de ce confrère.

7. Il reconnaît la qualité de confrère et en donne le titre à tout architecte exerçant honorablement la profession.

Il donne autant que possible la priorité à ses confrères pour les fixations de rendez-vous, les convocations, les réceptions, &c. Lorsqu'il y a lieu à réunion entre plusieurs architectes, les réunions ont lieu au cabinet du plus âgé.

8. Lorsque l'architecte emploie chez lui, comme dessinateurs ou commis, des jeunes gens qui font ainsi un stage d'instruction professionnelle, il leur donne le concours de son expérience et les traite avec les égards voulus par la confraternité.

II.—Devoirs de l'Architecte envers ses Clients.

9. L'architecte consacre à son client:

Le concours de tout son savoir et de son expérience dans l'étude des projets qu'il lui a demandés, dans la direction et la surveillance de ses travaux, ainsi que dans les avis ou conseils à lui donner;

Tout son dévouement à la défense des intérêts qu'il lui a confiés.

10. Toutefois, l'architecte ne se prête pas à des opérations, même exigées par le client, qui seraient de nature à léser les droits des tiers.

Il ne se prête pas davantage à des opérations qui lui paraissent de nature à le compromettre, ou à compromettre des tiers, ou à entraîner des accidents.

Dans ces cas, il avertit son client de l'impossibilité qui lui apparaît de donner suite à ses demandes.

11. Il avertit également son client lorsque celui-ci, par des modifications aux travaux prévus, s'expose à une augmentation de dépenses.

12. Il est rémunéré par son client, et par son client seul, au moyen d'honoraires. Ainsi, non seulement il ne reçoit aucune rémunération sous quelque forme que ce soit de la part d'entrepreneurs, fournisseurs, vendeurs ou acheteurs de terrains ou de propriétés bâties, ayant contracté ou pouvant contracter avec son client; mais encore lorsque la rémunération de son travail doit rester, en fin de compte à la charge de tiers, les honoraires qui lui sont dus de ce chef sont soldés par son client, sauf à ce dernier à s'en faire rembourser par qui de droit.

13. Il remet à son client une expédition des plans, cahier de charges et marchés ayant servi à la passation du contrat; il reste en possession de ses minutes, ainsi que de toutes les études préparatoires et des détails d'exécution. Il remet également à son client les mémoires des entrepreneurs qu'il a vérifiés et réglés.

14. Pour les travaux d'entretien, administration, vacations, &c., l'architecte produit, ordinairement, une note annuelle d'honoraires; pour les travaux neufs ou travaux de grosses réparations, il reçoit, sur ses honoraires, des acomptes proportionnels aux sommes dépensées.

15. L'architecte se récuse s'il est nommé expert dans une affaire où l'un de ses clients est en cause. Il en est de même s'il a déjà émis un avis au sujet de l'affaire en litige.

Lorsqu'il est désigné comme expert par son client, par exemple dans une question d'assurance, d'enregistrement, &c., il n'est plus le mandataire de son client; il n'est plus qu'expert.

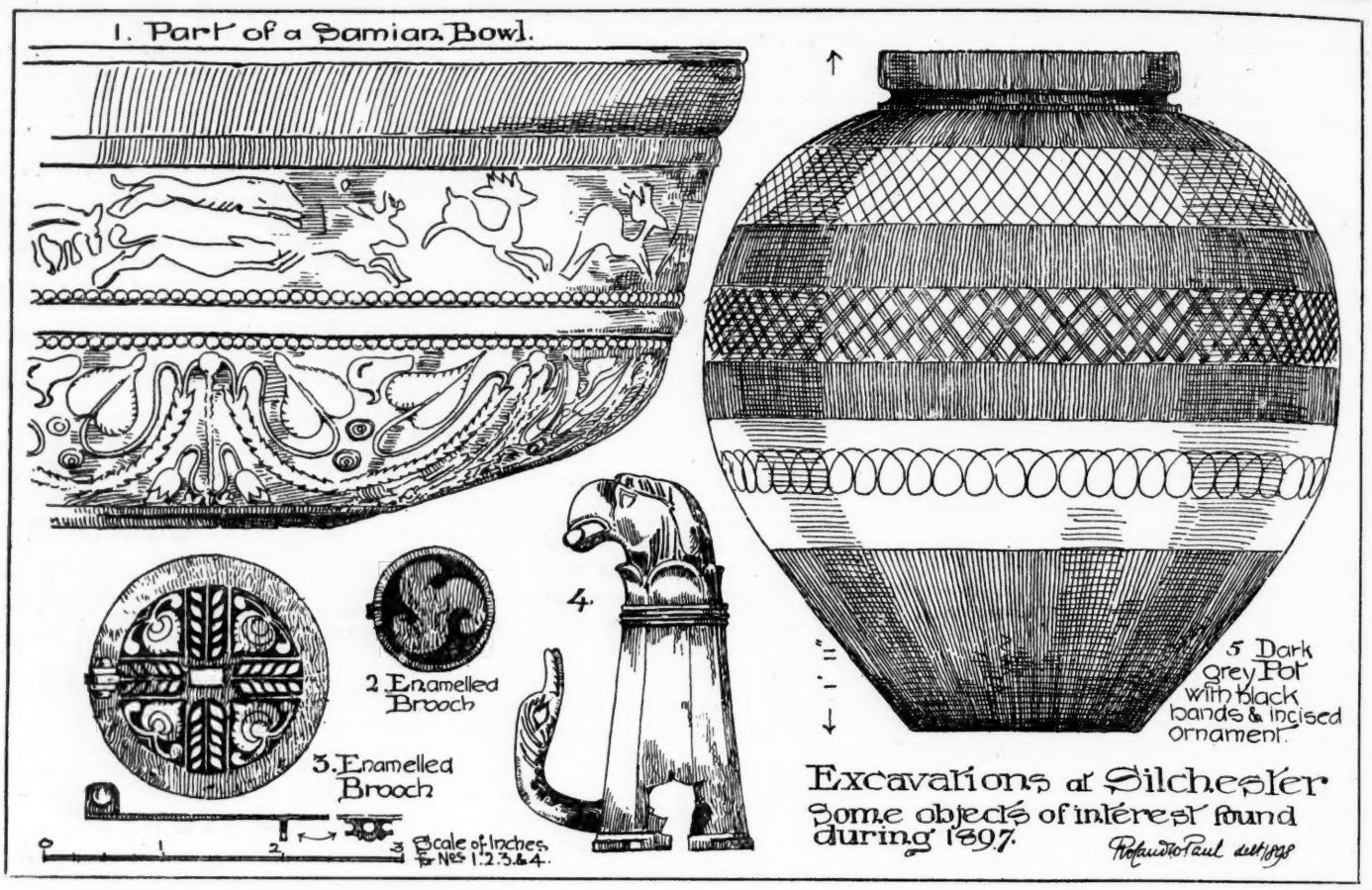
Quand il opère comme arbitre, ses obligations sont les mêmes.

III.—Devoirs de l'Architecte envers les Entrepreneurs et le Personnel du Batiment.

16. L'architecte emploie son autorité morale en vue de rendre aux ouvriers les travaux de leur profession le moins pénibles possible, et d'assurer la bonne harmonie, la cordialité et l'honorabilité dans les rapports entre toutes les personnes occupées sur ses travaux.

17. Vis-à-vis des entrepreneurs ou des fournisseurs, l'architecte s'interdit de recevoir aucune remise, commission ou don, soit en argent, soit en nature, que ces entrepreneurs ou fournisseurs soient d'ailleurs employés ou non dans ses travaux.

18. L'architecte s'interdit également d'insérer dans les cahiers de charges et marchés des entrepreneurs aucune clause astreignant ceux-ci à des dépenses envers lui, telles que remboursements de frais de déplacements, vacations, &c., ou allocation générale de frais généraux ou particuliers, à l'exception toutefois des frais de calques, autographies, expéditions


1. Part of a Samian Bowl.
2 Enamelled Brooch
3. Enamelled Brooch
4.
5 Dark grey Pot with black bands & incised ornament.
Scale of Inches for Nos 1.2.3.&4.
Excavations at Silchester
Some objects of interest found during 1897.
Rob.t W. Paul del.t 1898

de cahiers de charges mis à la charge des entrepreneurs, et ce, à la condition expresse que cette clause figure dans le cahier de charges ou autre document connu et signé du client.

19. Il délivre à l'entrepreneur des propositions d'acomptes ou de soldes, d'après les conditions du marché, ou, en l'absence de marchés, d'après l'état d'avancement des travaux.

Dans les travaux en règlement, il donne, sans déplacement de pièces, communication à l'entrepreneur de ses mémoires vérifiés et réglés ; il vérifie et règle ensuite ses réclamations, s'il en est produit.

A moins d'une mission spéciale du client, il ne se charge pas des payements.

20. Lorsqu'un architecte a pour client un entrepreneur ou une société d'entrepreneurs, il est, dans ce cas encore, rémunéré uniquement par des honoraires. Il ne subit jamais l'*alea* de gains ou de pertes qui est l'essence de l'entreprise, en contradiction avec l'exercice de la profession libérale de l'architecte.

21. L'architecte qui se fait entrepreneur ou commis d'entrepreneur, métreur, vérificateur, perd la qualité d'architecte.

Il ne la perd pas en se faisant commis d'architecte.

Le Rapporteur,
J. GUADET.

Vu :
Le Président de la Société centrale des Architectes francais, membre de l'Institut,
CH. GARNIER."

A note to the above document records that it was unanimously adopted by the congress of architects held at Bordeaux in 1895.

SILCHESTER.

ON Wednesday last, June 1, an exhibition of the objects of interest found during the past year on the site of the Roman city of Silchester, in Hampshire, was opened at the Society of Antiquaries, Burlington House, and will remain open until June 15. The portion of the site excavated during the past year is marked on the large plan of the city as Insulae xvii. and xviii., lying in the south-west angle of the city, near the south gate. Although no mosaic pavements or any objects of much architectural interest or detail have been found, the plans of several houses of some size have been recovered —some of the "corridor" type, others of the "courtyard" type, and one of a type not hitherto found. In Insula xvii. two hypocausts were discovered, not apparently directly connected with either house and presumed to have formed distinct buildings, for what exact purpose is not known. In Insula xviii. were found two wells, with the lining formed of tubs similar to one illustrated in these columns last year,* but in better preservation and of larger size. Each of these tubs measures rather over 6 ft. in height, and they were sunk in the ground to a depth of about 15 ft., and were supported by a rough wooden framework, part of which is also among the exhibits.

The houses found in some cases bear traces of having been rebuilt at a later period, causing some confusion in the lines of the foundations ; but little of the boundary walling exists. In many cases it was probably only a wooden fence. One of the buildings found in Insula xviii. had a courtyard towards the street, in which were six rough circular foundations placed a little distance apart, three on either side. These are thought to have been the foundations of querns, and fragments of two of the querns have been discovered. The method of working is shown by a careful diagram by Mr. George Fox, F.S.A., exhibited on the wall.

The only strictly architectural details found are portions of plinths or pedestals with moulded edges, having simple, but excellent, sections. The chief objects of interest in the present exhibition are chiefly of decorative work. Many fragments of brooches, pins, small instruments, and pottery have been found, and if generally not so interesting a collection as on some former occasions, a few are of somewhat exceptional interest. Several portions of bowls of Samian ware are shown, one of which we illustrate. Of another type is the large pot, also illustrated, dark grey in colour, ornamented with broad bands painted black, and roughly incised ornament introduced between them.

Among the examples of work in bronze are two brooches, both of which we illustrate. The larger one is about 2 in. in diameter, circular, the background of the ornament being of a deep blue enamel. In the centre is a small oblong opening, and at the back are remains of the fastening. The ornament takes the form of a cross, the spaces between having a conventional leaf. The smaller brooch has also a blue enamel background, the ornament in this case being of a much simpler kind, although curious. This brooch is about an inch in diameter. The very curious bronze object, marked No. 4 on our illustrations, is slightly over 3 in. in height, and its use has not yet, we believe, been decided. The lower portion is octagonal on plan, and somewhat resembles a candle extinguisher. The upper part is finished with a well modelled eagle's head, while from the front projects a swan's head and neck. A hole has been made in two sides, though whether other ornaments fitted in here or not is doubtful.

It is intended during the present year to complete the exploration of the south-west angle of the city. Work, we understand, has already been begun, and a mosaic pavement of some interest unearthed, and it is hoped that funds, which are urgently needed, will be forthcoming to help towards the completion of these very interesting excavations.

We have to thank the Society of Antiquaries for kindly allowing us to have the drawings made which illustrate these notes.

* See *Builder*, June 5, 1897.

THE ARCHITECTURAL ASSOCIATION:

ANNUAL DINNER.

THE annual dinner of the Architectural Association was held on Thursday last week, in the Caledonian Salon, Holborn Restaurant. The chair was occupied by the President, Mr. Hampden W. Pratt, who was supported by Dr. W. Garnett and Messrs. W. D. Caröe, F. R. Farrow, A. S. Flower, H. T. Hare, F. H. A. Hardcastle, W. J. Locke, H. Lavegrove, Beresford Pite, F. W. Pomeroy, G. H. Fellowes-Prynne, E. Fellowes-Prynne, E. A. Runtz, H. Tanner, and others.

The loyal toast having been honoured,

The Chairman proposed the toast of "The Royal Institute of British Architects." The Institute was regarded in certain circles outside its own ranks as being at the head of the profession, and that was the right place for it to occupy ; but, unfortunately, there were certain eminent architects who were outside its ranks, which was a calamity, not only for the Institute, but for the profession ; and, while that was so, architects could not speak with that united voice which was so desirable. He thought he was interpreting the feelings of all in saying that they would like to see the Institute the one representative body of the architectural profession. He had never been able to understand the position held by another architectural society, and if the time had not already come for that body to dissolve and throw in its lot with the Institute, he hoped that it soon would. What were the views of architects themselves as to the Institute ? Many architects considered that the Institute might be governed a good deal better than it is, and that it required much alteration in the constitution of its Council. It was a sign of the times that the Associates, who had so large a voice in the affairs of the Institute compared with what they had a few years ago, should seek to use the powers they possessed to improve the Institute. There was no doubt, he thought, that it would be for the good of the Institute if there were a certain amount of reform in the constitution of the Council.

Within the ranks of the Institute there were men who considered that it was able to exercise a large amount of influence for the good of the profession, and this opinion was largely held by the members of the allied societies, who looked up to the Institute in a very striking manner. For the last few years the Institute had been allied much more closely with the Association than it used to be, and it was to the advantage of both bodies that there should be this close alliance. As most of them knew, for several years past the Association had been represented each year on the Council of the Institute, and the advantage of this to both bodies, especially to the Association in regard to its educational work, must be obvious. The Institute had materially assisted the Association by its yearly grant of £100 for the last seven years, and the Association the more readily accepted that help because they considered that the Institute reaped much of the advantage in ultimately receiving into its ranks young men who had been trained by the Association well enough to pass the examinations of the Institute. The Association, by its systematic course of study, had been able to do more for the Institute and the profession than it was possible for the Institute to do alone. There was much difference of opinion as to the examinations, and however much they might disagree with the way those examinations were conducted, they must acknowledge that benefits and advantages resulted from them. Both bodies were working hand-in-hand and yet independently, and they were animated by one desire, viz.: to raise the tone of the profession and advance the art of architecture. The President of the Institute was, unfortunately, absent that evening, owing to his indifferent health, but with the toast he would couple the name of Mr. W. D. Caröe, a member of the Council of the Institute.

Mr. W. D. Caröe, in response, regretted the absence of Professor Aitchison, and said that the Institute realised that its life blood ran in the veins of the Association. It was a truism that youth was the hope of old age, and he certainly thought that the Association was the hope of the Institute. He was fully aware of the large and increasing part that the various allied societies in the country now took in the work of the Institute, but, perhaps, a more cordial feeling existed between the Institute and the Association owing, among other reasons, to their close contact in work. To the Association, he thought, they must look for an improvement of the Institute. What was lacking in the profession was enthusiasm, and what the Institute mainly wanted was the enthusiasm and the fresh ideas of youth. He heartily agreed with Mr. Pratt that there should be such a reform in the constitution of the Council of the Institute, that the younger men should have more opportunities than they possess now. He had often thought that it would be an excellent alteration for the Institute Council to be made a rotary one, *i.e.*, for some of its members to retire after a few years' service, and so give place to others. Every architect who had visited the Academy this year must have been struck with a model of a church, and it gave him, as a past-President of the Association, great pleasure to know that the model was the work of a member of the Association who had been trained in the Association classes. It was on work of that kind that the future of the Institute depended, and he hoped that equally good results would come from all the work of the Association classes.

Dr. Garnett, in proposing the toast of the evening, "The Architectural Association," said that the Association was carrying out most important, most valuable, and most efficient educational work. In the first place it was teaching with a view to the Examinations of the Institute; and, better than that, it was carrying on classes in design and water-colour drawing, and, in association with another institution, it was providing practical classes for members of the Association to become acquainted with the properties and limitations of the materials with which they had to do. He hoped that those classes would continue to grow, and that the young members of the profession would realise the value of learning to use tools as well as pencils. In addition to this, the Association was also carrying on a very useful and important educational work in its fortnightly meetings for mutual improvement, which was the best of all improvements. At such meetings papers were often provided by eminent experts, who gave information which could not be obtained from any other source. The Association was likewise doing a very good work in helping to establish a bond of union between the members, young and old, and he could not think of any means by which members of any profession could make themselves more useful than by joining together in an association of that kind. The Association was especially helpful to young architects who came to London from the provinces, and altogether it was thoroughly deserving of support.

The Chairman, in response, said that Dr. Garnett had shown by his remarks that he had taken hold of the vital points of the work of the Association. No name so well expressed what their society was than that one word—"Association." From the outset, it had endeavoured to work for the mutual good of the members, and with the desire to advance their noble art. It was very pleasing that some of their members had been associated with them from the first, and that so many eminent architects gave students the benefit of their advice and criticism in the School of Design. The bond of union between young and old members was certainly the life of the Association. They were endeavouring to draw that bond of union closer, in order that students might see the advantage of joining such a body, for as members they gained not only systematic education, but friendship with one another. As to the fortnightly meetings of the Association, it was quite true that at those meetings papers of great value were read, and the discussions which followed were of considerable advantage to both young and old students, and it was rather regrettable that more older members did not go to the meetings and take part in them. The enthusiasm which Mr. Caröe had referred to was not wanting in the Association, and he hoped it would never be wanting. He thought that one advantage of the short term of office of President of the Association was that a President, if he fulfilled his duties, concentrated his attention on the work of the Association, and was able in that way to throw much more enthusiasm into his work. He thought that it was well to restrict the term of office of President to one year in most cases, for in that way they could get a greater variety of men to serve them in that capacity. In past years they had had many brilliant Presidents—men who occupied very high positions in the profession—and they all, he believed, attributed much of their success to the work of the Association in which they were engaged. In regard to the Jubilee of the Association which was celebrated last year, it had been suggested that they should seek better premises in order to commemorate the event. They had not been able to do much in that direction so far, and at present they were seeking a site; but the matter had not been forgotten. The Association was maintaining its financial position, and he thought that the result of the year's work would show a better balance-sheet than for many years past. That result would be an inducement to them to go forward with the premises question. He retired from the position of President thankful for all the kindness and help which had been accorded him.

Mr. Beresford Pite, in giving the toast of "The Lecturers and Instructors," said that their lecturers and instructors were those friends who filled up the gaps in the professional education of the young architect. Architects were educated on the old patriarchal system; they were brought up in families, and were bound hand and foot by articles of indenture, and pursued their office education among drawing boards and specifications. If it were not for the lecturers and instructors, the Association students would go up for the Institute examinations to be hopelessly plucked. Thanks to a far-seeing past-President, Mr. Leonard Stokes, the Association's scheme of education came into existence, and ever since they had been depending upon their lecturers and instructors. He did not think that the Committee, at the outset, contemplated obtaining such an excellent body of instructors, lecturers, and Visitors as had been drawn to the Association. Before the inauguration of their scheme of education, they saw that the Institute had established the Examinations; the Association provided the examinees, but there were no lecturers and instructors. That was all changed now, and he believed that the time was not far distant when those lecturers would have a place—a proper place—on the Board of Examiners of the Institute. Their scheme would not be properly established until the instructors were in touch with the examiners. What the profession owed to the instructors could scarcely be estimated when they thought, for instance, of the number of flourishing architects who had passed through the hands of Mr. Farrow, their lecturer on the History of Architecture and Construction. There was one necessary class which had not yet been established, which was suggested to him sometime ago by a cynical friend, who said that a student might have his head full of technical fact and his fingers trained to technical skill, but he would not necessarily be successful in life unless, in addition, he had "cheek," which was the quality necessary to success in life. That friend suggested that a paternal government should appoint professors of "pure cheek" at the Universities and elsewhere, and he (the speaker) did not doubt that the Association might be able to suggest some occupants for these chairs.

Professor F. E. Hulme, lecturer on plane and solid geometry, in the course of his reply, said that he lived near Kew Gardens, where a royal palace had just been opened to the public. He was greatly afraid that that building, which was so full of interest, would degenerate into one more museum at Kew. The building was one of great historical interest, and no mean architectural value, and he hoped it would not be filled with objects which, however interesting, would be out of place there. The rooms were fine and spacious, and it would be a pity to devote them to wall and floor cases, and he thought that the building should be preserved intact as far as possible. The rooms, in his opinion, should be left very much as they are at present, but he was afraid that the custodians of the place would look upon the building merely as another museum.

Mr. F. R. Farrow also briefly replied, and remarked that he looked upon his work for the Association as a slight recompense for what the Association had done for him. He was glad to hear there was some chance of better accommodation being provided in the future than was afforded at Great Marlborough-street. He hoped that the committee would remember that sound-proof rooms would be necessary in any new building they might provide.

Mr. A. H. Hart then proposed the toast of "The Guests," coupled with the names of Mr. H. T. Hare and Mr. W. J. Locke.

Mr. Hare, in responding, said that some sixteen or seventeen years ago he was a member of the Association, but, unfortunately, he allowed his membership to lapse, though he had always followed with interest the reports of the meetings of the Association. At the time he was a member their organisation was very different from what it is to-day, and it did not present the same advantages. He hoped that when next he attended their annual dinner it would be as a member and not as a visitor.

Mr. Locke having also briefly and felicitously responded,

Mr. A. Conder gave the "Committee and Officers," coupled with the names of Mr. F. G. F. Hooper and the hon. secretaries. They were losing the services on the Committee of Mr. Hooper and Mr. Goldsmith, who were retiring after three years' excellent service on behalf of the Association.

Mr. Hooper said that although they were retiring from the Committee, they would do their utmost, in an unofficial capacity, to further the interests of the Association, which they all had so much at heart.

Mr. G. B. Carvill also replied on behalf of himself and Mr. Howley Sim, hon. secretaries. He remarked that their labours were much lessened by the manner in which he and Mr. Sim were assisted by every branch of the Association.

Mr. Banister F. Fletcher then proposed the last toast, "The President-elect." In Mr. Prynne they had a President-elect who in all respects was an admirable one. He had been a member of the Association for many years; he had been a Visitor to the classes, and he had taken a considerable amount of interest in all the work of the Association. They believed that Mr. Prynne would guide the Association with success and with honour.

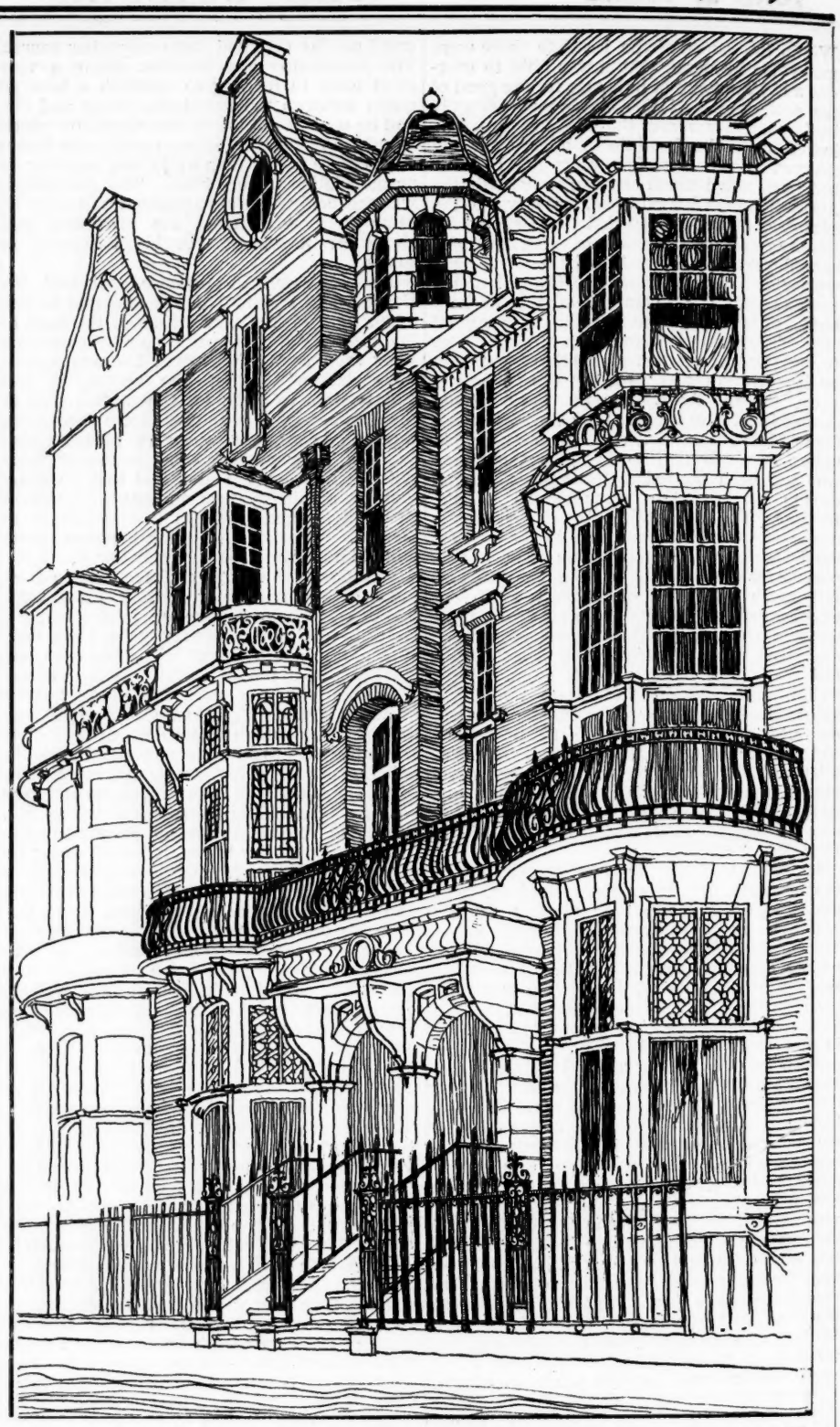
Mr. Fellowes-Prynne, in reply, said he could not but feel a difficulty in following those who had preceded him as President. It would be invidious to pick out names from such a list of excellent Presidents, but taking those with whom he had been associated on the Committee, there was their genial friend,

Mr. Mountford, who was their President for two years; then there were their admirable chairman, Mr. Caröe, and their orator, Mr. Beresford Pite, and last, but not least, their truly business President, Mr. Pratt. His difficulty was that he had to follow such able men—men who had worked so sincerely and so successfully for the good of the Association. But he was on his mettle, for he felt it was no small honour to be elected as their President. Theirs was in every way an honourable and an invaluable Association. As architects, the one thing above all others they must feel was the want of more *esprit de corps*, and he thought the Association had done much to supply the want. What was wanted was the loyalty of the younger members to those who, by their abilities, were acknowledged leaders in the art they all loved so well; and the help to the younger members of the profession of those who were leaders. Thorough good fellowship was needed amongst architects. Artists were always students, and architects should feel that studentship did not stop with the Examinations of the Institute. He could not but feel that in the Association they had the nucleus of brotherhood in art, and he wished that feeling properly existed in the Institute. He did not think it did, for in the Institute there was a cold feeling which did away with the feeling of fellowship which ought to exist among all true artists. He hoped that, as the ranks of the Institute were gradually filled by members of the Association, the feeling of brotherhood in art would exist, not only in the Association but in the Institute itself.

The proceedings then terminated. The following members of the Association assisted in the musical entertainment during the evening: Messrs. S. Constanduros, G. B. Carvill, F. D. Clapham, C. D. Imhof, and J. H. Wilson.

SKETCHES OF LONDON STREET ARCHITECTURE.—XXV.

THE fronts shown here, forming Nos. 6 and 7, Bark-place, W., form two of a new terrace of houses, of which Messrs. Rolfe & Matthews are the architects. They serve to illustrate the type of house architecture now being carried out in some of the new West-end streets.



Sketches of London Street Architecture.—No. XXV. Houses Nos. 6 and 7, Bark-place, W. Messrs. Rolfe & Matthews, Architects.

THE INSTITUTE OF BUILDERS:

ANNUAL DINNER.

THE annual dinner of the Incorporated Institute of Builders was held on Thursday evening, May 26, at the Trocadero Restaurant. The President, Mr. Henry Holloway, took the chair, and amongst those present were Mr. Thos. Blashill (Architect of the London County Council). Lieutenant-Colonel Trollope, the Master of the Tylers' and Bricklayers' Company, the Master of the Joiners' Company, Messrs. Frank May, J.P., John Slater, M.A., Joseph Bell, J.P., G. Kett, J.P., J. Randall, T. F. Rider, B. J. Greenwood (President, Central Association of Master Builders of London), J. Stevenson Jones (President, National Association of Master Builders of Great Britain), Geo. Burt, J. H. Colls, J. Bowen, J.P., F. J. Dove, T. P. Whittaker, M.P., Howell J. Williams, L.C.C., W. Shepherd, S. Young, H. H. Bartlett, and others.

The usual loyal toasts having been duly honoured, Mr. Greenwood proposed the "Army and Navy," remarking that as master builders they knew something of warfare—a different kind of warfare, all the more obnoxious because there was no martial glory to be won. Discretion was said to be the better part of valour, and master builders of London had exercised the very height of discretion, but a time would come when something more would have to be done.

The toast was coupled with the name of Lieutenant-Colonel Trollope, who, in responding, said there was one point in which builders might well take an example from the authorities of the Navy, who did not expect to find able-bodied seamen ready made, and got boys for training at the earliest possible age. The builders of London seemed to think that complete tradesmen grew on the roadside, and took not the slightest trouble to make them. The great cause of trouble was that there was not a sufficient number of men. It was the builders' own fault, because they would not train apprentices.

Mr. Jones then proposed the toast of the evening, "Success to the Institute of Builders and the President." The Institute was one of the greatest institutions they had in connexion with their profession, and they hoped that in the future its usefulness would be even greater than in the past. In Mr. Holloway they had a President who had done great service to the building trades, and had filled some of the highest positions in their trade associations.

The Chairman, in reply, said two years ago, when he happened to be President of the Association of Master Builders, they had rather a disturbed time, but after many patient conferences they arrived at certain rules and regulations which, on paper, some of them considered delightful, and an example to all future ages as to the settlement of strifes and difficulties. Although on paper those regulations seemed all one could desire, in practice they had not yielded the results that had been hoped for. As builders, the members of the association, he was bound to say, accepted those rules and acted up to them in a proper spirit, but unfortunately as soon as the trade societies got an advantage they ignored every part of the agreement which had been made to settle these disputes, and, as they all knew, there had since been no end of troubles and difficulties. He thought that all they could do at present was to be loyal to each other and stick together, and a time would come when they would have to institute a definite settlement by which these turmoils would be brought to an end. With regard to the Institute, Mr. Jones had intimated that they had been able by that combination to gain some advantage for the trade which they represented. They had been fortunate in their selection of presidents in the past, and his immediate predecessor, Mr. Shepherd, had done yeoman service in connexion with the Building Acts, the question of workmen's compensation, the settlement of the conditions of contract, and the questions at issue with the London County Council. The conditions of contract were at present in a very unsatisfactory condition. The Royal Institute of British Architects had inserted from time to time conditions which they as builders had explained were not fair and equitable to both parties, and they would be delighted if an arrangement could be come to with that august body to end the constant strife arising between builders and architects. In a dozen cases his firm had had these conditions put before them, and had courteously declined to sign them, and they found in every case that the archi ec

gave way. The architects would be acting in the interests of their own dignity by putting an end to that kind of thing. It was unpleasant for the builder to have to raise the question, and it must be unpleasant for the architect to have to give way, and modify conditions which his Institute called upon him to enforce. He would be delighted if something could be done during his year of office to settle this question, which had now been pending for eight years. As an Institute they had some things to congratulate themselves upon. Trade was prosperous, and was likely to continue prosperous. The House of Commons was spending money in the most glorious way. The Government had voted an enormous sum to be spent in building operations, and the London County Council had also large schemes in hand, so that there was likely to be plenty of building to be done. That brought him to a point Colonel Trollope had touched upon, and which he would like to emphasise. The very fact of this enormous amount of trade being before them ought to make them alive to the necessity of trying to increase the number of skilled mechanics. The trouble in London was not that they could not get men, but that they could not get men skilled in the various trades. There were plenty of "duffers" about. They wanted thoroughly equipped workmen, but they would not get them until, as Colonel Trollope said, they manufactured skilled workmen in the proper way. There was another question they might have to look at in the future—to know who were builders and who were not. They had with them Mr. John Slater, who had been sitting with the coroner in that extraordinary inquiry about the jerry building at Westminster, and he was sure Mr. Slater's impression would be the same as theirs, that it was nearly time they began to know who were builders and who were not. He believed the very gentlemen entertaining them in that place posed as builders and decorators and contractors. They heard of drapers and butchers taking up the building trade. They were careful as to who got into the Institute, and he could say that every member understood his work, and if a job were entrusted to him it would be done thoroughly. If they could have architects who would do their work and not speculate themselves, and builders who understood their work, they would not have accidents like the unfortunate one at Westminster a few weeks ago. He hoped they as builders would have a feeling of respect for their trade, and be anxious to uphold its honour. There was no more interesting trade in existence than that of the builder. Their work did not end with the day in which it was taken in hand. It lived for generations, and one of the personal ambitions he had before him was to erect such buildings that the children who came after him would be proud to look upon them, and to remember that their father had a hand in their erection. Let them cultivate that spirit, and do work of which posterity would be proud, and with which they and their offspring would feel proud that their names were connected.

The next toast was "The Architects and Surveyors," which was proposed by Mr. H. H. Bartlett, who said he was glad the toast was in the plural. They did not like the architect who wanted to be his own surveyor, or the surveyor who wanted to be an architect. The two professions had each its own work, and they could not very well mix with advantage to the architect, the surveyor, the client, or the builder. Nowadays the architect needed a wide knowledge of many scientific questions, some of which were looked upon as of but little importance only a few years ago. He thought they might congratulate themselves that they had architects who were equal to the times they had fallen upon. London was becoming one of the most beautiful cities in the world. If they looked down the river towards the City from Westminster Bridge, the vista was one which could scarcely be equalled in Europe. The architects he had had the good fortune to meet were most agreeable, fair, and painstaking in their work. As to surveyors, their position between the architect and the builder was such that necessarily the utmost confidence must be felt in them by both sides. As a body they deserved the highest consideration. If he might venture a hint to architects, he would ask them to remember that time was not what it was a few years ago, yet a building was expected to be done even more quickly. That was impossible in the present circumstances. Men worked shorter hours, and often only half worked and half played. Crowding men on the work did not pay, and he would ask architects to remember the changed conditions and to allow more time. Another thing would be to help in the constant difficulties arising with plasterers by, as far as possible, making other things take the place of plaster. This could be done, and would greatly assist the progress of the work. In conclusion, he coupled with the toast the name of Mr. Blashill for the architects, and Mr. S. Young for the surveyors.

Mr. Thomas Blashill, in responding, said that architects had the greatest confidence in and respect for builders. If any architect had not such confidence it was his own fault, for architects had so much influence in the selection of the builder, that lack of confidence would show that the architect had neglected to get into touch with honourable men. His sympathy was with the builders, and went beyond them to the workers, and he hoped the relations between masters and men would shortly improve. He entirely agreed with what had been said as to the necessity of creating the workmen of the future by a proper system of apprenticeship. As had been said, there had for some time been differences between the architects and the builders. He had long been impatient that the matter should drag on so long; he was satisfied, considering how ably advised the master builders were, that a dozen persons from each side could meet round a table, settle the whole matter, and have time for a good dinner afterwards. There was a gentleman they heard a great deal of now, who was called an arbitrator. It was almost the extinction of the arbitrator to put him in the building agreement. The very fact that there was a possible appeal to an arbitrator seemed to drive the parties into settling matters for themselves on fair and reasonable terms. He had never in his life had occasion to appeal to an arbitrator.

Mr. S. Young also responded, and said that the quantity surveyors, like the builders, sometimes found all sorts of people taking up their business. There were cases, as they all knew, where the responsibility was cast on the builder of satisfying himself in three days as to the correctness of quantities that a skilled man could hardly go through in a month—with a condition that no error could be afterwards admitted. On the second page they would find items which it would puzzle any man to understand, but on the last page a very clear and simple item, in the shape of a charge about twice as high as any skilled surveyor would make. It was to the credit of the builders that such quantities as these were generally returned. Surveyors, as Mr. Bartlett had said, had but the one desire to act fairly and honestly in the preparation of their quantities. "Full" quantities would be a fraud on the client, and "short" quantities would quickly lead to the downfall of the surveyor; but the surveyor who took out quantities with due skill and diligence gave satisfaction all round. The surveyor's lot was not a happy one. On the one hand the architect imagined they could take out quantities in a fortnight which would reasonably take five weeks, and on the other there was the builder calling every day to know about the statement of extras and omissions. Thus the surveyor became a past master in the art of temporising and excuses.

The last toast was that of the "Visitors," to which Mr. Whittaker, M.P., responded.

Correspondence.

To the Editor of THE BUILDER.

OFFICIAL CONTROL OF BUILDINGS.

SIR,—The Superintending Architect, in his evidence at the recent inquest on the Westminster accident, expressed the opinion that there ought to be more official supervision of buildings, and the jury adopted the idea, and in your last article you are not unfavourable to it.

Is there not some danger that, if increased supervision were provided compulsorily, the persons who speculate in commercial buildings might more frequently follow the lead of those who speculate in dwelling houses, and dispense with all professional superintendence? At present few warehouses, manufactories, printing offices, &c., in London are built without an architect. The larger spans, heavier weights, and greater height seem to have deterred those who put up commercial buildings from dispensing with an architect; but if the Building Act of the future is to provide complete supervision, this will no longer be the custom, and as a result the gain to the public will be of doubtful extent.

Should a future Building Act place the construction of other parts of a building than those now supervised under the District Surveyor, the wise course will be to give him a general control such as he has over public buildings now—not to devise a series of rules for internal construction. R.

WALTHAM ABBEY.

SIR,—I regret that, through absence from Town, I should have been unable to answer the letters sooner which appeared in your issue of the 21st ult., relating to this building.

It is not my intention to enter into a long controversy on this subject, nor do I imagine that you, sir, would care to devote much of your valuable space to a discussion of what will, I suppose, always continue to be a vexed question; but there are some points in the letters above mentioned which seem to call for some notice from me.

As to the "single instance" which is brought forward by Mr. Lynam as a conclusive proof of the incorrectness of the theory that the design of Waltham Abbey can be as early as 1059-1062, namely, the fact that the nave arcade is in pairs of arches, surely, as this arrangement is found at the Abbaye-aux-Hommes at Caen, and in other French churches of the same date, it must have been known to Harold; and as to the general unity of design which exists throughout the nave, I have always been careful to notice this, as an interesting feature, in everything I have written on the subject, and I referred to it in the letter which appeared in your issue of May 7.

Mr. Bond alludes to the break in the design of this building, as if it were a fact which might be neglected. I maintain that it is not so, and I am convinced that any one who will take the trouble to study this junction of dates carefully and dispassionately, as I tried to do when taking the measurements, will come to the conclusion which was gradually forced upon me, viz., that it presents phenomena which must be taken into account before a safe conclusion can be arrived at: I do not say that in itself it proves conclusively that the five western bays were built by Harold, but I do say that it proves either that these bays were built by Harold, or that the church was entirely rebuilt between 1062 and the earlier years of the twelfth century.

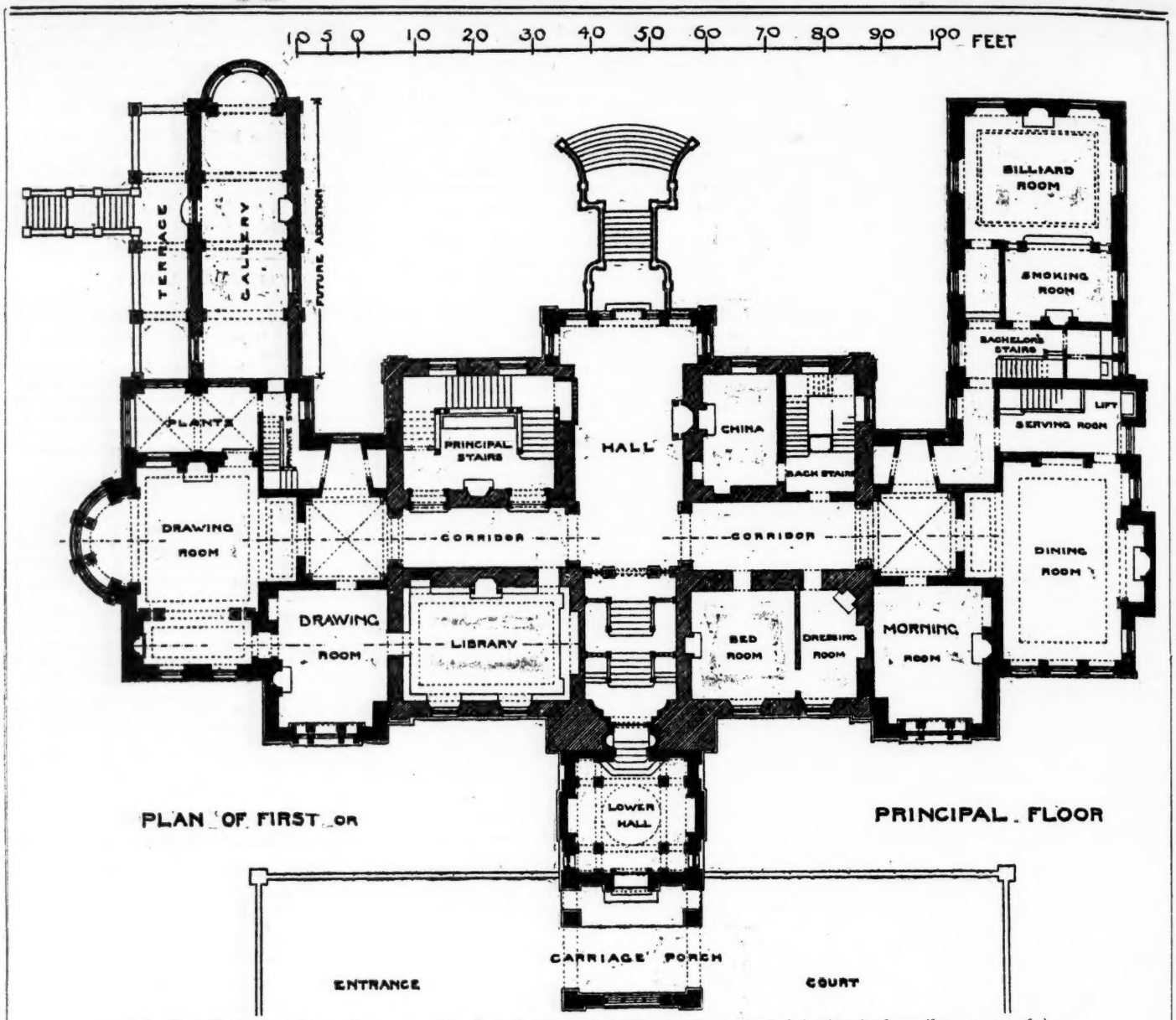
I quite agree with Mr. Bond, that too much importance may be attached to small breaks in design, but this is no ordinary break, such as one finds in almost every building of large size; it is associated with the very remarkable settlement which I described in my last letter, and with the several peculiarities which exist in the construction of the second bay from the east end on the south side of the church, and these peculiarities, as it seems to me, can only be explained on the assumption that this bay was built after the settlement took place, whereas it is manifest that the third bay was built before that date.

As I have on former occasions enumerated all the many differences which exist between the two parts of the church, I will now only call attention to a few of them—for instance, the chevrons on the main arches are different, both in section and in treatment; the capitals and bases are different; the columns of the clear-story are very dissimilar, those in the western work being built up in courses, while in the eastern bays they are monolithic; they also differ greatly on plan; and there is the great fact that the eastern bays are unquestionably associated with the well-developed running mouldings of the arch at the east end of the south aisle, and of the easternmost window of the south aisle.

These are all matters of detail; a distinct difference of design occurs in connexion with the triforium. In the western part of the church this stage was lighted by means of circular windows placed high up in the aisle walls, and these windows are omitted in the eastern bays.

I do not understand why Mr. Lynam should try to convince me that the conception, design, and execution of Waltham Abbey are Norman from base to summit, seeing that in my last letter I stated that there could be no doubt that such was the case; I apprehend that the whole difficulty arises from this fact, for if we found any distinctly Saxon details in the building there would be an end to the controversy, or perhaps I might say it would never have begun, for historical evidence proves that Harold did erect an abbey on this spot which was a very magnificent building, and was looked upon by his contemporaries as something almost, if not quite, unique.

Mr. Ferguson appears to me to have grasped the points of the case far more clearly than any of your other correspondents, and his suggestion as to the possible reconstruction of the arcade walls only is, I think, injurious; but he bases his argument on the theory that the great difference between the thickness of the arcade walls and of the outer walls of Waltham Abbey indicates that they do not belong to the same date, and yet in the list of large Saxon



Jardine Hall, Dumfries. Plan as altered and enlarged. (The portions shaded in black show the new work.)

churches which he quotes from Mr. Micklethwaite's paper on the subject he cites Carlisle Cathedral as an admittedly Saxon building, although precisely the same difference existed there between the corresponding walls.

However, apart from this, it seems to me to be historically quite as unlikely that the nave arcade should have been reconstructed as that the whole church should have been rebuilt immediately after the Conquest. Mr. Lynam does not appear to think that the historical side of the argument is worth very much, and yet I apprehend that to Professor Freeman this view of the case appeared to be almost conclusive. Consequently, it seems necessary in discussing the subject to give some consideration to it.

The piece of walling which Mr. Ferguson draws attention to, as being of Saxon character, does no doubt possess an indication of herring-bone work, but it is not strongly marked throughout, and as it is merely the inside face of the west wall of the original south transept it is not a very important feature; it is, in fact, nothing more than one might reasonably expect to find in a building upon which Saxon wallers are almost quite certain to have been employed.

To conclude, may I say that if it is so utterly impossible that Waltham Abbey, as we know it, could have been designed by Harold, as some of your correspondents try to prove, it would seem to be practically impossible that the controversy about its date could ever have originated. Any one who knows anything about either Mr. Burges or Professor Freeman must be aware that they were not men who were likely to believe in an archæological absurdity, and I do not think the question is quite so easy to settle as it certainly must be if the theory held by these two men was so foolish, that "it might almost as well be asked whether the building is 'Greek or Saxon.'" But again I repeat that no one says it is Saxon any more than we speak of the British Museum as being English.

J. ARTHUR REEVE.

May 30, 1898.

CYLINDER FOUNDATIONS.

SIR,—Your issue for May 28 contains a paper by Mr. A. T. Walmisley on "Riverside Foundations," in which he says: "Cylinder foundations were first used by the late Sir William Cubitt at Rochester" This was, in effect, subsequent to the use of the pioneer cylinders at the Royal Terrace Pier at Gravesend, in 1842-43, which were visited by Dr. Potts, the patentee of the atmospheric process, before the enrolment of his patent, subsequently attempted to be used for the pier foundations of Rochester Bridge, but found inapplicable from the quantity of "detritus" in the river bed from the foundations of the old bridge, the system only being adapted for semi-fluid sand strata.

Detailed papers and drawings of each of these works and their respective dates may be found in the minutes of proceedings of the Institution of Civil Engineers.

Cylinders of pottery for founding massive buildings in India are of great antiquity and are described in the above journals.

J. B. REDMAN.

LEWISHAM LIBRARY COMPETITION.

SIR,—In October last year designs for the Branch Libraries in the above competition were sent in.

At Christmas the Vestry had advanced so far that Mr. Mountford was appointed to adjudicate upon the drawings.

Since that time the majority of the designs have been returned; but up to the present no award has been made—a condition of things which is as unsatisfactory to the competitors as it is discreditable to the Vestry.

Surely seven months is long enough for even a Vestry to make up its mind.

NEMO.

BOOKS RECEIVED.

HISTORY OF LONDON STREET IMPROVEMENTS, 1855-1897. By Percy J. Edwards. (Printed for the London County Council.)

AN ADDRESS TO STUDENTS OF THE BIRMINGHAM SCHOOL OF ART. By William Morris. (Longmans & Co.)

FALL OF A WEST-END MANSION.—A mansion in course of erection in Devonshire-street, Portland-place, collapsed on Thursday morning, burying several men beneath the ruins.

Illustrations.

JARDINE HALL.

WE have devoted our lithographic plates this week to a complete set of illustrations of the new work at Jardine Hall, Dumfries, carried out by Mr. E. J. May, the drawings of which form one of the most important exhibits in the architectural room at the Royal Academy this year.

In the *Builder* for May 12, 1894, we gave the elevation and plan of the alterations (also a Royal Academy exhibit), together with small drawings on the same sheet showing the elevation and plan before the alterations. The remodelled plan we give again in this issue, as an explanation of the drawings.

As an example of the transformation of an old house in accordance with modern requirements, and on a somewhat sumptuous scale, while retaining the bulk of the original building, this is a very successful and interesting piece of work, and is worth the attention of young architects who may be called upon to take in hand a similar project.

We are indebted to Mr. May for the following description of the house and of the work done:—

Jardine Hall, as it existed in 1892, before the alterations now illustrated were made, dates from 1814, and had nothing in it of any architectural note. The recent works, including large additions to the stabling and a new laundry, were completed in 1897, and consist of wings containing the principal rooms, a new entrance, an additional story to the main old part, the entire re-arrangement internally of the old basement and principal floors, and new offices. The matter of kitchen and office accommodation has wonderfully changed since 1814. It was then, apparently, enough to provide a few rooms distributed about the basement without any connection; the cook's

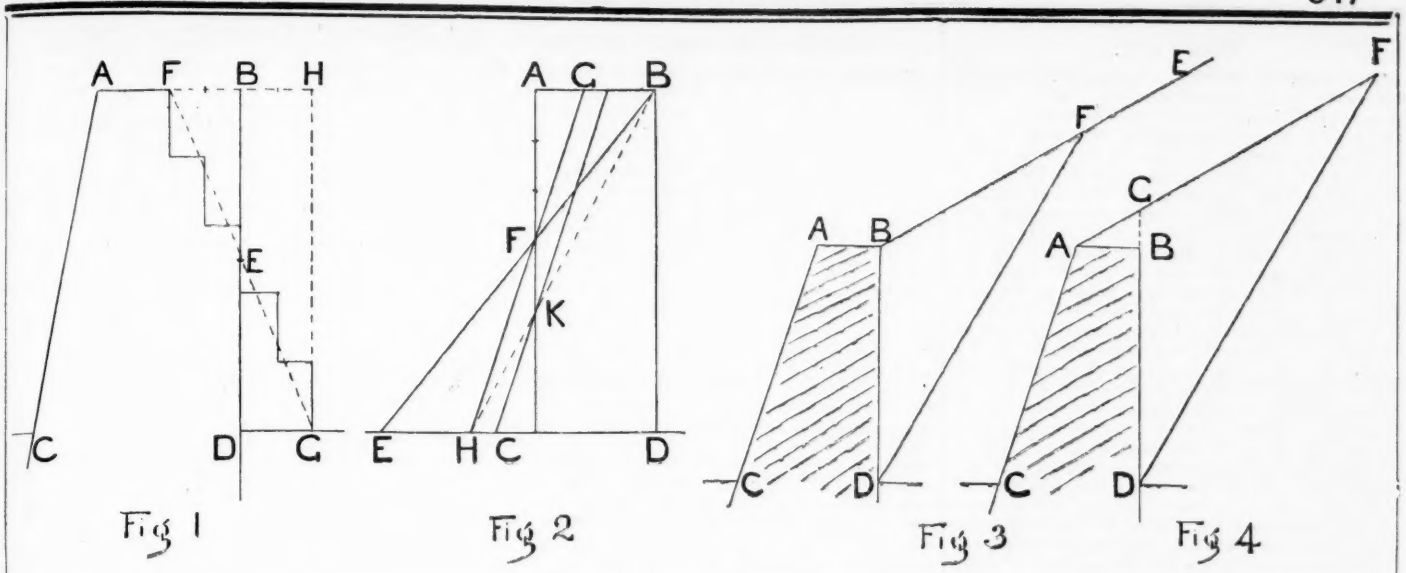


Fig 1 Fig 2 Fig 3 Fig 4

domain consisting of a kitchen, a small scullery, and two cupboards, with one larder at the other end of the building; the traffic to the dining-room having to go across the main corridor. Had it not been for the excellent opportunity the "basement" of this classic type of house offers, the great demand on space that the servants' departments now make would have seriously encroached on the grounds.

The stone used is the well-known red corncockle from the quarry on the estate. The woodwork of the lower hall and entrance staircase, with its wall panelling, and the woodwork of the dining-room and corridors is all oak. The principal stairs are in mahogany, which is known to have been seasoning thirty years, and has, probably, been more; and by leaving it unpolished it is now going a deep brown. Mr. Black, the joiner, of Carlisle, deserves great credit for this and all the woodwork. The house is completely supplied with electric light and warmed by hot water. The clerk of works during the latter part of the work was Mr. D. Campbell, of Glasgow.

The work has been carried out on the Scotch system, with a separate contract with each tradesmen. The masonry was done by Messrs. J. Halliday & Sons, of Dumfries; the plumbing, sanitary work, and heating by Messrs. P. Drummond & Son, of Moffat; the painting and decoration by Mr. Ballantine, of Carlisle; the plastering by Mr. J. Laidlaw, of Lockerbie; and the marble paving, steps, and columns in Lower Hall by Messrs. Galbraith & Winton, of Glasgow. Specially designed door furniture and locks and hinges, iron grilles, &c., were executed by Mr. Thomas Elsley. The lamps up entrance stairs, and in carriage porch, and the bell pull, &c., are by Messrs. Barkenstein & Krall. The locks were supplied by Mr. James Gibbons, of Wolverhampton.

COMPETITIONS.

GLASGOW INTERNATIONAL EXHIBITION, 1901.—At a meeting of the Building Committee of the Glasgow International Exhibition, held on the 26th ult., it was resolved to recommend to the Executive Council that the following professional members of the Building Committee, together with the Convenor and Vice-Convenor, be appointed a Sub-Committee to examine the competitive plans when received and report:—Messrs. J. J. Burnet, A.R.S.A., William Leiper, R.S.A., A. B. M'Donald, C.E., W. F. Salmon, James Thomson, and Robert Whitson.

LORD MAYOR'S ROOMS, TOWN HALL, LEEDS.—The Corporate Property Committee of the Leeds Corporation had before them recently the designs of "White Rose" for the redecorating and refurnishing of the Lord Mayor's Rooms at the Town Hall, to which the first premium was awarded as the best designs. Messrs. Marsh, Jones, & Cribb, of Leeds, were the successful competitors, and the committee propose to use their designs as the basis for the work, which it is expected will cost about 1,500*l*.—*Leeds Mercury*.

STREET IMPROVEMENTS, LIVERPOOL.—It is proposed to widen and improve Park-road, Liverpool, between North Hill-street and Ellis-place, Oldhall-street, and Leeds-street, Vauxhall-road, from Freemasons-row to Marybone, Vernon-street, &c.

The Student's Column.

THE CALCULATION OF STRENGTH OF MATERIALS AND RESISTANCES.—XXII.

THE strength of a retaining wall may be considerably increased, without increasing the amount of brickwork and masonry which it contains, by forming the back in a series of offsets instead of building it vertical or straight. The method of arranging the offsets is a very simple one, as shown in our diagram, fig. 1. Suppose A B C D to represent the wall of the necessary thickness to support a given body of earth calculated for a vertical back B D; then, if we bisect B D in E, and draw from A B, through E, any line, F E G; from G draw the vertical line G H; then divide F H into an even number of parts, one less than the number of offsets we propose to use, and B D into the actual number of offsets; then, through the points at which we have divided the lines F H and B D, draw vertical and horizontal lines, meeting, we shall have the contour of the back of the wall arranged in offsets.

The reason for the greater strength with the same amount of material of a retaining wall built with offsets at the back is a threefold one. First, the centre of gravity of the wall is placed further back from the point C, about which the overturning would occur. Second, the pressure of the earth is more vertical. Third, the frictional resistance is increased by the fact that the offsets in rising have to lift a considerable portion of the earth. This last point, of course, to be completely effective, demands that the wall shall be strongly constructed, so that the weight of the earth is not sufficient to break the offsets, nor to destroy the coherence of the whole.

In our diagrams of retaining walls, illustrating the points we have considered, we have drawn the external face of the wall with a slightly battered face, and retaining walls are usually built with a battered face, inasmuch as strength for strength the wall with a battered face contains less masonry than a wall with a vertical face. It is an easy matter to change the proposed section of a retaining wall from a vertical face to a battered face, giving the same amount of strength. Thus, if we suppose in fig. 2, A B C D to be the section of a retaining wall of the required strength, with vertical faces front and back, then if we multiply C D by 1·225 and set off D E equal to this product, and join E B, then the triangle B E D has the same resistance to overturning as the rectangle A B C D. From this triangle we can arrange our wall with any amount of batter we please. Let us suppose A C is crossed by B E at the point F, and assuming we wish our wall to batter one in three, we should divide A F into three equal parts, and from A set off A G equal to one of them, then join G F and produce this line to meet E C in H, then G H clearly batters one in three, but it contains a little more strength than the triangle B E D or rectangle A B C D. To arrive at the precise section, we join B H, cutting A C in K, then through K draw a line parallel to G H, which is the face of the wall equal in stability to one with the triangular section B E D, or rectangular section A B C D.

In our investigations hitherto, we have assumed that the earth is level with the top of the retaining wall, but as the earth is capable of forming a bank at some natural slope or angle of repose, the earth is frequently carried up above the level of the retaining wall and sloping back from it in a bank. Such walls are called surcharged walls, and, of course, have a certain amount of increased weight to carry. Now let us suppose, as in fig. 3, that A B C D is a surcharged retaining wall with the earth sloping in a bank B E, from D we draw D F, the slope of maximum pressure meeting D E at the point F. Then the trangle B D F represents the weight of earth, the action of which is tending to overturn the wall by horizontal pressure. If, as in fig. 4, the bank of earth covers the top of the wall, then the weight of earth in the triangle G A B must not be included as exercising an overturning force on the wall, but only the weight of that in the triangle G D F.

In the case of a surcharged wall the point of application of the pressure resultant is not necessarily at one-third of the height of the wall from the base, but is at the point where a line drawn through the centre of gravity of the sustained earth parallel to the slope of maximum pressure meets the back surface of the wall. It is, therefore, usually above the point, which is one-third of the height of the wall from the base.

The theoretical investigations of the strength of retaining walls have usually assumed that the earth at the back of the wall is quiescent and of a determinate angle of repose; but in practice it frequently happens that the angle of repose of the earth is altered by additional moisture, or is disturbed or compressed by weights upon it or by vibration from passing traffic or other causes. These necessarily are indeterminate in their character, and in practical work retaining walls are often built by what we may term rule of thumb, which is on the safe side, but undoubtedly in many cases is superabundant in strength. In this practice the thickness of a wall of dressed stone or coursed stone in good size blocks may be ·35 of its height, that of a rubble wall in mortar or a brick wall ·4 of its vertical height, and that of a dry rubble wall ·5 of its height.

Especially should it be borne in mind that in the construction of wharf walls a considerable increase beyond the theoretical thickness is desirable, notwithstanding that pressure of the water in front helps to sustain them. The earth behind the walls is necessarily often heavily loaded when barges or other vessels are being discharged, and this, of course, adds largely to the pressure on the back of the wall. Then, again, the earth at the back of the wall is frequently saturated with water, and the water often gets under the wall, and by its upward pressure virtually reduces the weight and consequently the stability of the wall. Then, again, when the water does get beneath the wall it becomes partly liable to slide on the wet and soft earth on which it should be resting.

PROPOSED NEW SCHOOL, WEST HARTLEPOOL.—It is proposed to erect a new Board school at West Hartlepool, in the Lister-street district. The cost will probably be about 13,000*l*. Mr. E. Percy Hinde, who designed the recently-erected Brougham school, has been chosen as the architect, and the building will be practically a duplicate of the other one.

OBITUARY.

SIR ROBERT RAWLINSON.—We regret to announce the death of Sir Robert Rawlinson, K.C.B., which occurred on Tuesday afternoon at his residence, 11, The Boltons, South Kensington. Born in Bristol on February 28, 1810, he was the son of a mason and builder carrying on business at Chorley, in Lancashire, and himself began life as a working stonemason. One of his first engagements was with Jesse Hartley, the engineer of the Liverpool Docks, whose office he entered at the age of 21 as a measurer of masonry. But in 1836 he was in the service of Robert Stephenson, acting as assistant resident engineer on the section of the London and North-Western main line at Blisworth. In 1840 he returned to Liverpool as Assistant Surveyor to the Corporation. Sanitary science, as now understood, may be said to be a creation of the last six or seven decades, and in its development and practical application Mr. Rawlinson took a foremost part. On the passing of the Public Health Act of 1848, he was one of the first inspectors appointed, and in this capacity he visited and inspected numbers of towns all over the country. During the Crimean war Mr. Rawlinson was one of the Sanitary Commission sent out to examine into the causes of, and to find remedies for, the unhealthy state of camp and hospital. In 1863 the Home Secretary despatched Mr. Rawlinson and Mr. Farnell to Lancashire to inquire into the feasibility of the Government starting works of "utility, profit, and ornament" in order to provide employment at a fair wage for the starving cotton-workers. After visiting and inspecting over ninety of the principal places, Mr. Rawlinson reported that, in his opinion, a million and a half sterling might be expended in permanent improvements of a beneficial character, such as main sewerage, drainage, forming and completing streets, making new water-reservoirs, and laying out parks and recreation grounds; and in consequence of his statements the Commissioners of the Treasury were authorised to advance out of the Consolidated Fund a sum not exceeding 1,200,000*l.* at 3½ per cent., on the security of the local rates, to facilitate the execution of the public works suggested. Under Mr. Rawlinson's direction success attended the experiment; the men were employed at a wage not less than 12s. a week. In recognition of the services he rendered Mr. Rawlinson was made a C.B. On the constitution of the Local Government Board he became Chief Engineering Inspector, and in 1888, upon retiring from the post, which he had held for sixteen years, he was promoted to be K.C.B., having already been knighted in 1883. In addition to his official duties he acted as Chairman of the Royal Commission on the Pollution of Rivers in 1866. He became an Associate Member of the Institution of Civil Engineers in 1848 and President in 1894. We take the foregoing information mainly from the *Times*. We may add, however, that Sir Robert Rawlinson took a great interest in architecture, and in his younger days was a great friend and associate of Elmes, the architect of St. George's Hall, with whom he had an interesting correspondence on the subject of the architectural treatment of the hall, which was subsequently printed.

MR. JAS. R. VEALL.—Mr. James Read Veall, architect, Wolverhampton, died at his residence, Brewood, Staffs., on the 17th ult., in his seventy-fourth year. Mr. Veall was articled to the late Mr. Wm. Adams, of Wisbech. He went about fifty years ago to Wolverhampton as assistant to the late Mr. Edward Banks, and started in practice on his own account in 1851, carrying out a number of residences, one of the most important of which, St. Cuthbert's, Albrighton, for the late Mr. Frederic Walton, being illustrated in our pages in the early sixties. The Agricultural Hall, at Wolverhampton, was erected by him, and also the Willenhall Literary Institute, the latter of which we illustrated at the time. Mr. Veall was for some years employed by the Guardians of the Wolverhampton Union, and for some years past the firm of J. R. Veall & Son have been architects to the Guardians of the Cannock Union. The Gas Company's offices in Darlington-street was one of his later works. He erected large warehouses and extensive stabling at Wordsley, and several other buildings of a similar class; also the Church of St. Michael and All Angels, Caldmore, Walsall, and a large number of church schools in the neighbourhood of Wolverhampton. One of his latest buildings was the Victoria Nursing Institute, erected in commemoration of the Queen's Jubilee, which was won in competition in conjunction with his second son, Mr. Ashton Veall, whom he took into partnership about ten years ago. Mr. Veall was, up to the time of his death, one of the Diocesan Surveyors for Lichfield Diocese, for the Archdeaconry of Stafford, and practically carried out the duties to within two or three months of his death.

A NEW SLATE QUARRY COMPANY.—An announcement will be found in our advertising columns of a new company, under the title of the "United Quarries Company," formed to develop the slate quarries in the Nantile district of Carnarvon. This appears to be an important project, if the unworked slate beds in the district acquired prove to be of the high quality anticipated.

GENERAL BUILDING NEWS.

CHURCH, HYSON GREEN, NOTTINGHAM.—On the 19th ult. the new Church of St. Stephen's, Bobber's Mill-road, Hyson Green, was consecrated. The new church is constructed of Bath stone, and dark red-coloured bricks from Loughborough and Sileby. The internal dimensions are:—Length, 110 ft.; breadth, 52 ft., consisting of a nave 24 ft. wide and a chancel. Accommodation is afforded for about 700. There are porches at the west end and on the north and south sides, and also separate entrances for the clergy. The nave is flanked on both the north and south sides by aisles, each 14 ft. wide. The height of the church to the top of the nave roof, which is of open timber, is 45 ft. Owing to the nature of the site, it has been found impossible to have an east window, but the chancel is amply lighted by large traceried windows on both sides. There is a large window at the west end, and others in the aisles and clearstories. The west end has a deeply-recessed porch and large semi-circular windows, divided by a turret, and crowned by a square bell-chamber. A wooden fleche, enriched with panels and tracery, springs from the centre of the nave roof. The church is roofed entirely with red tiles. The building work has been carried out by Messrs. Norris & Sons, of Ascot, from designs prepared by Messrs. Christian, Caröe, & Purday, of London.

PROPOSED CHURCH, SANDYLANDS, MORECAMBE.—A new church is being erected at Cross Cop, Sandylands. Messrs. Paley & Austin, of Lancaster, are the architects. The church consists on plan of a nave of six bays, 76 ft. 6 in. long by 21 ft. wide, and 25 ft. 6 in. high to wall plate inside, north and south aisles 11 ft. 9 in. wide; north and south transepts, 15 ft. wide; chancel, 42 ft. long by 20 ft. wide; choir and clergy vestries on north side of chancel. At the junction of the nave and chancel with transept there will be a tower and spire, supported by four piers and arches. The height of the tower will be 58 ft. to top of parapet, with a spire. The church is designed in the early Perpendicular style, and will be built of Heysham stone throughout, the inside and outside facing being of broken coursed walling. The roof will be of oak, open timbered, covered with Yorkshire flag slates. The seats and fittings are to be of oak. The portions of the church which are not to be built at present are the north aisle and vestries, south transept, and the chancel east of the tower; also the south porch and the upper portion of tower and spire. The tower will be temporarily roofed over with a pyramidal roof, the turret staircase being temporarily finished with a bell turret of oak and lead. There will be a temporary chancel formed under the tower crossing. The contract for the whole of the work has been let to Mr. John Edmondson, of Morecambe.

ST. SILAS' NEW CHURCH, BLACKBURN.—This church, which has been erected in Preston New-road, was opened recently. The church will cost about 10,000*l.* when completed. The building, which is in the Perpendicular style, is of stone, and will give accommodation for 600 worshippers. The building is 160 ft. long and 84 ft. wide at the chancel end. The exterior walls are of local stone, with Yorkshire stone dressings, while for the interior walls Runcorn stone is utilised. The pews are of pitchpine, varnished, and the choir stalls are of oak, which, with the communion rail, have been carved by Mr. Mills, of Lancaster. The pulpit and font are of Runcorn stone. The carving of the pulpit was done by Mr. Bridgeman, of Lichfield, and that of the font by Mr. Edward Lewis, of Blackburn. Electricity is the illuminant. The architects are Messrs. Paley & Austin, Lancaster, and the contractors were Messrs. Graham & Sons, Huddersfield.

RESTORATION OF SWINTON PARISH CHURCH, YORKSHIRE.—The foundation stone has just been laid in connexion with the restoration of Swinton Parish Church, which was destroyed by fire—with the exception of the tower—last March. The contract for the present restoration was let to Mr. G. H. Smith, builder, Mexboro', for 5,000*l.* The former church accommodated 312 persons. In the new building provision will be effected for 654 persons. The architect is Mr. Isle Hubbard, of Rotherham. The church will be in the Early English style, consisting of nave, north and south aisles, chancel, vestries, and side chapel, with an organ chamber over the vestry. The chancel will be laid in mosaic, with marble terrazzo. The seats will be of oak, and the rest of the woodwork will be of Kauri pine. The church will be built of stone, with a roof of red tiles.

NEW CHURCH, WATERLOO, LIVERPOOL.—The foundation stone of a new church to be erected in Crosby-road, Waterloo, was laid on the 24th ult. The west end of the church will face Crosby-road North. There will be seating accommodation for 800 people. The nave will be 109 ft. long and 39 ft. wide. The aisles will be 74 ft. in length, the transepts 22 ft. square, whilst the chancel will be 42 ft. in width. The interior and exterior walls will be faced with red Accrington bricks and stone dressings. The roof will be 32 ft. to the wall plate, 52 ft. to the top of the ridge, and covered with Tilberthwaite slates. The architects are Messrs. Grayson & Ould, and the contractors Messrs. Roberts and Robinson, Liverpool.

CHURCH RENOVATION, ST. HELENS.—A meeting of the wardens and sidesmen of the parish church, St. Helens, was held recently, when it was decided to proceed with the work of introducing the electric light and beautifying the interior of the church, thus completing the restoration of the building, which was begun several years ago. Messrs. Willink & Thicknesse, of Liverpool, have been instructed to prepare plans and designs.

CHURCH AND SCHOOLS, SUSWORTH, LINCOLNSHIRE.—Plans for a new church and schools at Susworth have been prepared by Messrs Eyre & Southall.

CATHOLIC CHURCH, SEAFORTH.—On the 29th ult. the foundation stone of a Catholic church, to be called the Church of Our Lady, Star of the Sea, was laid at Seaforth. The church is to be erected on a site at the corner of Church-road and Crescent-road. The architects are Messrs. Sinnott, Sinnott, & Powell, Liverpool, the contractor being Mr. W. Winnard, of Wallgate, Wigan.

WESLEYAN CHURCH, COVENTRY.—A Wesleyan church is to be erected in Coventry at the corner of Stoney Stanton-road and Eagle-street. The existing church will be converted into Sunday schools when the larger erection is completed. The new church will have a frontage to the Stoney Stanton-road of 70 ft., and to Eagle-street of 77 ft. The main entrance will face the Stoney Stanton-road, and between it and the present church the tower will be situated. Seating accommodation is to be provided for rather more than 700 adults on the ground floor and gallery. A choir and organ space is provided on the ground floor, and also vestry accommodation, three of these apartments being included. The building will be constructed of red brick with Hollington stone dressings, with green slates for the roofs. The tower, which, with the spire, will rise about 85 ft., is to be also of red brick with stone dressings, and the spire will be made of stone. The internal woodwork will be of pitch pine, and the roof, which is to be open boarded, will be unvarnished. The heating apparatus is on the low pressure hot-water system, with radiators, the heating chamber being placed under one of the vestries, in the basement. The cost of erection of the church is 2,910*l.* Messrs. Harrison & Hattrell are the architects, and Mr. C. Garlick, jun., is the contractor.

BAPTIST CHURCH, NORTHAMPTON.—A new Baptist church is to be built at Northampton on a site in Adnitt-road, exactly opposite Allen-road. The school will be on an adjoining site, with a frontage in Lea-road. A number of architects were invited to prepare plans, which were adjudicated upon by a London assessor, who selected the designs sent in by Messrs. Mosley & Anderson, of Northampton. The main building consists of nave, with transepts, and with an aisle on either side. The aisles have lean-to roofs. The nave is lighted, not only with the windows in front, but from the windows in the half-timbered clearstory. There is an entrance vestibule in front. The rostrum is at the opposite end. The baptistry is immediately in front of the rostrum. Behind, separated from the church proper by an internal passage, are the vestries. The tender of Mr. A. P. Chown for 1,475*l.* has been accepted. The church will accommodate about 450 worshippers.

BIBLE CHRISTIAN CHURCH, BRIGHTON.—The new Bible Christian Church, Stanford-avenue, Brighton, was opened on the 18th ult. The building consists of a nave and two wide transepts, and an apsidal end. The external walling is of stock bricks with dressings of red bricks and Sussex stone; the roofs are covered with slates, and are surmounted at the crossing of the transept roofs with a ventilating turret. The church is placed over the schoolroom. In the rear are vestries, which are approached by a private staircase, and have also an entrance from the church to the schoolroom, which forms a second exit from the church, this staircase being fireproof. The schoolroom proper will seat about 300, but there are four class-rooms divided off by patent swivel partitions, which can be thrown back, thus adding space for another sixty. The infants' room will hold some fifty children; and there is also a young women's class-room, accommodating about thirty, and a kitchen and boiler, sink, &c. The heating is by hot-water pipes to the schoolroom and class-room, and by radiators to the church. The buildings are lighted with electric light throughout. Mr. E. J. Hamilton, Brighton, was the architect, and Messrs. Saunders & Sons the contractors.

PRIMITIVE METHODIST CHURCH, MORLEY.—A new Primitive Methodist Church and Sunday school at the Birks, Morley, have just been opened. The premises have been built at a cost of 1,600*l.*, from designs prepared by Mr. T. A. Buttery, Morley, and accommodation is provided in the church for 250 adults, and in the schoolroom underneath for 300 scholars.

REOPENING OF HULL BETHEL CHAPEL.—The Bethel Chapel (Methodist New Connexion), Charotte-street, Hull, has just been reopened. The work of renovation has been carried out under the superintendence of Mr. Percy T. Runton, the various contractors being Messrs. George Houlton, R. Finch, Russell, and Healey. Mr. Woods has fitted the electric light. The work, which includes the building of a new organ, is to cost from 1,100*l.* to 1,200*l.*

NEW FREE CHURCH, CRAIGMILLAR PARK, EDINBURGH.—The memorial stone has just been laid of the new Craigmillar Park Free Church, a site for which has been secured at the end of East Suffolk-

road, Edinburgh. The plans have been prepared by Messrs. Sydney Mitchell & Wilson, architects, Edinburgh. The church is cruciform on plan, and consists of a nave, aisles, transepts, and a semi-octagonal apse. The tower, with spire, is in the north-west corner, and in it the main entrance is placed. The vestibule between the doorway and the church is spacious. Over it is placed a western gallery. The nave is divided into three bays by circular columns, with moulded capitals. The clearstory windows, of which there is one over each bay, are of three lights. The aisles are used entirely as passages, and contain no seats. The apse is separated from the church by a stone arch, and it is lighted by three windows with traceried heads. A panelled dado is carried round the apse, and its floor, which is raised three steps, is laid with encaustic tiles. On the north side of the apse, and opening into both it and the north transept, by means of stone arches, is the organ chamber. The roof of the apse is treated as a semi-dome, and is lined with wood and decorated with moulded ribs of the same material. The roof of the nave and transepts is open timbered. Behind the church the usual accommodation in the way of vestry, session-house, ladies' room, &c., is provided. The hall is a complete octagon, with a row of low, mullioned windows on each of its sides. The tower is square in plan, and is designed without buttresses. The church is seated for over 700, and the hall for nearly 300.

WELSH BAPTIST CHURCH, ANGLESEY. — This building has been erected at Llangefni as a memorial to the Rev. Christmas Evans. The approximate cost of the building was 2,000*l*. The designs were furnished by Mr. Evan Evans, Carnarvon, and the works carried out by Messrs. R. & J. Williams, Upper Bangor.

METHODIST CHURCH, NEW SKELTON, MIDDLESBROUGH.—The foundation stones of a new iron church, to be erected for the Primitive Methodist Connexion at New Skelton, were laid recently. The plans were prepared by Mr. W. Wardman, architect, Redcar.

CUNINGHAME FREE CHURCH, GLASGOW.—On the 28th ult. the memorial stone was laid of the new Cuninghame Free Church, which is being erected at the corner of Govan and Thistle Streets. The new buildings will accommodate 870, but there are three suites of halls and rooms to accommodate as many as the church. The buildings are to cost 7,600*l*. The plans are by Messrs. H. & D. Barclay, architects; and the contractors are: J. Adam & Co., masons; A. Niven & Son, wrights; J. MacFeat, plumber; Jas. Mearchent, slater; J. Drummond, plasterer; and Tosh, Sons, & Cross, gasfitters; with Mr. Charles Wilton as clerk of works.

WESLEYAN CHURCH, CHURCH GRESLEY, DERBYSHIRE.—The new Wesleyan church at Church Gresley was opened on the 27th ult. Mr. Robert C. Clarke, of Nottingham, was the architect. It is a structure of red pressed bricks, with buff terra-cotta dressing, and will provide accommodation for 460. The contractor who has carried out the work is Mr. Charles Venning, Swadlincote.

CHRIST CHURCH NEW SCHOOLS, SOUTHPORT.—The new schools which have been erected on the site of the old Christ Church Schools, Southport, have just been opened. The basement contains chamber for heating apparatus and tea boilers, also a scullery, with hoist up to the top floor, and store-rooms. The ground floor school contains a central hall 54 ft. long by 24 ft. wide, with two class-rooms each 33 ft. by 22 ft.; and an infants' room (with gallery), 21 ft. by 20 ft.; also a hat and cloak room, with lavatory. There is accommodation on this floor for 250 scholars. When the sliding doors are moved aside, and the revolving shutters raised, a hall is provided, with seat room for about 600 persons. A recreation ground has been provided on this level. The First Floor School is reached from the ground floor by two iron staircases. It is arranged with a central hall, 45 ft. long by 24 ft. wide, and with an average height of 25 ft. On each side are two class-rooms. There is accommodation on this floor for 300 scholars. Separate hat and cloak rooms, with lavatories, are provided for the upper schoolrooms. There is also a teachers' room on this floor. The Parochial Hall: The central hall and class-rooms are formed by a system of sliding doors and revolving shutters. These can all be removed in the course of a few minutes, so as to form one large parochial hall, 69 ft. by 54 ft., and capable of holding over 800 people. Sunday School: Each of the six large class-rooms can be subdivided, so as to form twelve class-rooms for Sunday school purposes. On the second floor is a room for manual instruction, 40 ft. long by 22 feet wide, capable of accommodating fifty or sixty scholars. Opening out of this are three store-rooms. On the same floor is an open playground, 44 ft. by 22 ft., with all necessary offices. Also the head-master's room, with store-room and lavatory. All the rooms and landings throughout are heated with hot-water pipes and radiators, on the low pressure system. Fresh air is obtained through a hopper arrangement in the bottom part of each window, and the foul air is taken away by flues in the walls and 9 in. diameter pipes in the ceiling, all connected with a large air pump extractor fixed in the roof. The halls, class-rooms, vestibule, and staircases are lit with the electric light; gas light is also provided in case of need. The staircases are all outside the school proper, and are constructed entirely of iron. The landings are constructed of steel joists and concrete. There are eight entrance doors into the principal parts of the school building, and these are all made to open outwards. The school buildings have been erected from the designs of Mr. Goodwin S. Packer, Southport.

WILLS' MEMORIAL SCHOOL, WADEBRIDGE, CORNWALL.—The foundation stone of a Methodist school, to be erected as a memorial to the late Mr. S. Wills, was laid recently. The building adjoins the Wesley Chapel in the Egloshayle-road, and will be attached to the present schoolroom by means of a covered way. It is intended to accommodate 350 children. The plans were prepared by Messrs. Kerley & Ellis, of Exmouth, and the building is being erected by Mr. T. Williams, of Wadebridge.

WESLEYAN SCHOOLS, ACCRINGTON.—Memorial stones were laid recently of a new Wesleyan day and Sunday school at Spring Hill, Accrington. The building is estimated to cost 4,500*l*. The architect is Mr. H. Ross, of Accrington.

ADDITIONS TO TURRIFF PUBLIC SCHOOL, N.B.—A commencement will shortly be made with additions to the Turriff Public School. The west wing is to be extended to the same length as the east wing, and on the ground floor two cloak rooms, 25 ft. by 15 ft., are to be provided. The present rooms under the centre floor are to be converted into a hall of 55 ft. by 21 ft. At the back of the hall a staircase will run up to the first floor. On the ground floor two infant rooms will be fitted up to accommodate 183 pupils. In each of the standard rooms about eighty pupils are accommodated, while the additional two class-rooms will give about thirty-two places more in each room. On the first floor board room and retiring rooms for the teachers are to be provided. The plans for the reconstructed building have been prepared by Messrs. James Duncan & Son, architects, Turriff. The estimated cost of the alterations and additions is 2,486*l*.

NATIONAL SCHOOL, LLANGEDWYN, DENBIGHSHIRE.—The new National Schoolroom which has been erected at Llangedwyn was opened on the 24th ult. The architect was Mr. D. Williams, and the work was carried out by Mr. R. A. Jones, Llanfyllin. The building is of Ruabon pressed bricks, with freestone dressings.

SCHOOL, NEATH.—At Melincrythan, recently, the foundation stone of new schools was laid on a site on the Eaglesbush estate. The contract price of the new buildings is 5,400*l*. Accommodation is to be provided for 638 scholars. The architect is Mr. E. Rees, and the builder is Mr. A. George.

NEW WING, WEST KENT GENERAL HOSPITAL, MAIDSTONE.—A new wing of the West Kent General Hospital, added thereto by public subscription in commemoration of the Diamond Jubilee of her Majesty the Queen, has just been opened. The entrance to the new buildings is from the Queen Anne-road, by a large porch leading to the waiting hall—a room 39 ft. by 22 ft., with an extension at right angles 35 ft. by 12 ft. Opening from the waiting hall are the three consulting-rooms, for the physician, surgeon, and dental surgeon, and on the opposite side is a dispensary, with a room for stores opening from it. A corridor leading from one end of the hall communicates with that connecting the children's ward and nurses' home with the main block. A porter's room, with scullery attached, has been included in the scheme. The old waiting hall has been utilised for a board room and a room to be used as a library, museum, &c., for the use of the medical staff. The chapel, 30 ft. by 18 ft., is approached from the landing adjoining the women's ward. The buildings—the design of Mr. H. Bensted—have been built by Mr. T. Elmore.

VICTORIA HOSPITAL FOR INCURABLES, DUNDEE.—Plans for this building, prepared by Mr. J. Murray Robertson, architect, have just been approved by the Works Committee of the Town Council.

MANSE, NAIRN, N.B.—Competitive plans for a parish church manse, Nairn, were invited from three architects in the north, and at a recent meeting the plan by Mr. John Mackintosh, Inverness, was adopted.

FORESTERS' HALL, RYDE, ISLE OF WIGHT.—The new Foresters' Hall in Warwick-street, Ryde, built by Mr. Isaac Barton from the designs of Mr. John I. Barton, at a cost of some 2,000*l*., has just been opened. The building is of red brick, with Bath stone dressings. On the summit is a figure of a Forester. The roof is tiled. The large hall is 85 ft. long, 36 ft. wide, and 26 ft. high, and has a gallery at the end. There is also a kitchen and scullery, heating chamber, and other offices.

PARISH HALL, WANSTEAD SLIP, ESSEX.—The foundation stone has just been laid of a Parish Hall at Wanstead Slip. The site is in Janson-road, close to the church. The building is being erected from the plans of Mr. T. Warren by Messrs. Holloway, of Battersea. It will contain two halls, one on the ground floor and another on the first floor, besides other rooms.

AN OLD INN AT ALNWICK.—Plans were passed by the Alnwick magistrates recently for the rebuilding of "Ye Old Plough Inn," in Bondgate Without, Alnwick. The building will consist of three stories. The plans were prepared by Mr. Hope, architect, of Newcastle-on-Tyne.

WORKING MEN'S CLUB, KIRKMICHAEL, N.B.—The foundation stone has just been laid of this building. The architect of the club is Mr. J. S. Baxter, Dalrymple, and the accommodation consists of recreation room, kitchen, parlour, and bowl house on the ground floor; a hall to accommodate 300, and two ante-rooms on the second floor; with a tower and turret for a clock. The building will be of Ballochmyle stone throughout.

INSURANCE OFFICE, BIRMINGHAM.—The Norwich Union Fire and Life Assurance Societies have just entered into possession of the building at the corner of Congreve-street and Edmund-street, which was erected for the Birmingham Liberal Club, and which will now serve as the company's head office for the Midlands. King Edward's Girls' High School, pending the erection of a building in New-street, occupied a portion of the premises; and a short time ago the Norwich Office purchased the building for 40,000*l*., and placed it in the hands of the original architects, Messrs. Cossins, Peacock, & Bewley, and the original builders, Messrs. W. & J. Webb, for adaptation to commercial purposes. The ground floor contains the public department of the office. A new Gothic doorway, with stone mouldings in the style of the other arched work of the exterior, has been constructed in Congreve-street. The Fire Department on the left of this entrance, and with a frontage to Edmund-street, has been formed out of the old reading-room of the club, the inner partition wall having been arcaded and a counter placed along the line of arches. The counter on the right bounds the Life Department, formerly the old entrance-hall and lounge. A small portion of the fire office has been partitioned off by a screen of oak and leaded cathedral glass to form a private office, and similar devices have been adopted in other parts of the building where division has been necessary. The large dining-room has been divided by oak-and-glass screens. Strong-rooms and store-rooms have been constructed in the basement, and the upper rooms have been fitted up as offices. The staircase has been slightly altered, and the old Congreve-street entrance will serve for the let-off portion.

PRESBYTERIAN CHURCH, NEWCASTLE. — The Erskine Presbyterian Church, Rye-hill, Newcastle, was opened on the 25th ult. The new church has been erected on the site of the old Erskine Church from the designs of Messrs. Badenoch & Bruce, and has accommodation for 500.

PROPOSED LUNATIC ASYLUM, RADCLIFFE, NOTTINGHAM.—Colonel W. B. Slake, R.E., held an inquiry on the 25th ult. at the Shire Hall into the application of the Notts. County Council for sanction to borrow 110,000*l*. for the purpose of erecting a lunatic asylum at Radcliffe. Mr. E. P. Hooley, the County Surveyor, is the architect for the new asylum.

SWIMMING BATH, HARROGATE.—A new swimming bath at Harrogate is being erected on the Dragon Estate on Skipton-road. The architects of the building were Messrs. H. E. & A. Brown, of Harrogate. The estimated cost of the buildings, land, and furnishings is 5,500*l*. The dimensions of the swimming bath are 75 ft. by 30 ft.: it is formed of glazed brick walls, white tiled bottom, with black tiled partitions. There are forty-two dressing-boxes, over which is a gallery on three sides of the building. The gallery, which is intended specially for spectators, will accommodate upwards of 250. In the front portion of the building, on the right of the entrance, is a billiard-room for two tables. On the left, a refreshment-room is arranged. A ticket-office has been fixed in the front entrance. Over the entrance a board-room is provided for the directors, and living-rooms, &c., for the caretaker, and store-rooms. The contractors for the new baths, &c., are:—Mason and bricklayer, Mr. S. Nettleton, Bilton; joiner, Mr. J. W. Rudd; engineering, Mr. J. Robinson; plumbing, Mr. Chris. Allen; painting, Messrs. Jessop & Cosgrove; and plastering, Messrs. Fortune & Calverley.

COURT-HOUSE, CASTLEFORD, YORKSHIRE.—The new Court-house for Castleford has just been opened. In designing the building, the West Riding Surveyor (Mr. Vickers Edwards) has adopted the Elizabethan style. Entering a lobby by the main door in front, a turn to the right brings the visitor into the charge-room. Opening into the charge-room is the inspector's office. A corridor extends the entire length of the basement, and into this corridor, to the rear, opens a range of five prisoners' cells. From the corridor direct access is obtained, by a back staircase, to the dock in the magistrates' court above. From the lobby a stone staircase leads to the upper story of the building. On the landing to the right are the magistrates' clerks' rooms and a short corridor, into which the witnesses' room opens. At the end of the corridor folding-doors give admission to the magistrates' court. At the rear is a gallery for the general public, affording sitting accommodation for about a hundred people. The magistrates' room is on a level with the court. The whole of the work has been carried out by Messrs. Denholm & Co., of Wakefield, Mr. France was clerk of works, and the cost has been about 7,000*l*.

CLUB, LEEDS.—The foundation-stone of the new club-house in St. Peter's-square, Leeds, in connexion with the Good Shepherd's Mission Church of the Parish Church, was laid on the 28th ult. On the ground-floor there will be a billiard-room and reading-room, comprising the recreation club, and above, similar rooms will form the men's club. At the south end of the block will be the bagatelle and

reading rooms of the boys' club. The building is designed by Mr. H. Chorley, of the firm of Messrs. Chorley, Connon, & Chorley, architects, Leeds. The contractors are Messrs. J. T. Wright, J. Tomlinson & Son, E. Tattersall, J. P. Mountain & Son, F. Woodhead, and Teale & Somers.

IMPROVEMENTS AND ADDITIONS TO LINCOLN CORN EXCHANGE.—Various works of improvement are being carried out on these buildings, from plans prepared by Messrs. W. Watkins & Son. The contract is being carried out by Messrs. Wright & Sons.

BANK, ELSWICK.—A new bank is in course of erection at the corner of Beech Grove-road and Elswick-road. The contractors (Messrs. J. & W. Lowry) are building the premises from plans by Mr. J. W. Dyson.

BUILDING IN GLASGOW.—There were ninety-nine cases brought before Lord Dean of Guild Graham and the members of Glasgow Dean of Guild Court on the 26th ult., the applications for linings representing 273,000*l.* of new property. One of these was for the erection of a building in the centre of the city 92 ft. in height, and the other for a building 119 ft. in height. Mr. John Whyte, the Master of Works, objected to both plans, maintaining that their great height would be very dangerous in the event of an outbreak of fire, as the pressure from the mains would not raise water higher than 73 ft. The plans for the lesser building were passed, but consideration of the other plans was continued for a fortnight.—*Glasgow Herald.*

CITY-SQUARE IMPROVEMENTS, LEEDS.—The new lavatories for men and women were opened to the public on the 28th ult. The whole of the fittings have been prepared from special designs, and have been carried out in glazed fireclay and earthenware by Messrs. Doulton, Twyford, and the Farnley Company. The walls and arches are lined with cream-coloured glazed bricks, with a dado of coloured glazed bricks. The faience work in the arches, &c., carrying the deck lights, has been carried out by Mr. Whitehead. The mosaic floors have been laid by Messrs. De Grelle Houdret & Co. The joiners' work is executed in teak, and varnished. The whole of the lavatories are lighted by electricity. The ventilation is carried out by Blackman's electric fans, and is designed to change the whole volume of the air four times every hour. The women's lavatories are designed with private dressing-rooms, &c., which are fitted up with every modern convenience. This is the first attempt to provide first-class accommodation in these lavatories for the public. The granite work in connexion with the City-square improvements has been carried out by Mr. James McIntosh, of Aberdeen. The whole of the works have been designed and carried out under the superintendence of Mr. William Bakewell, Architect for the Corporate Property Committee, Leeds. Mr. Henry Whiteley has acted as clerk of the works.

SANITARY AND ENGINEERING NEWS.

CRICH WATER SUPPLY, DERBYSHIRE.—A few months ago the Belper Rural District Council invited competitive schemes for supplying the parish of Crich with water—a district containing about 3,000 population. Ten schemes were submitted, engineers from London, Brighton, Birmingham, and Yorkshire competing. The Council decided that the scheme submitted by Mr. Harry W. Taylor, of Newcastle-on-Tyne, was the most suitable, and this was accordingly adopted. Mr. Taylor has been engaged as engineer for the execution of the work.

PUBLIC IMPROVEMENTS, NOTTINGHAM.—Col. W. R. Slacke, R.E., held an inquiry on behalf of the Local Government Board at the Guildhall, Nottingham, on the 24th ult., into the application of the City Council for sanction to borrow 51,500*l.* for works of sewerage, 3,940*l.* for purposes of public baths, 3,000*l.* for the provision of a depot at Bulwell, and 800*l.* for purposes of street improvement. On behalf of the Council there attended the Town Clerk (Sir S. G. Johnson), the City Engineer (Mr. Arthur Brown), the the deputy city engineer (Mr. F. B. Lewis), and others.

LANGPORT, SOMERSET.—The Rural District Council have accepted a tender from Messrs. Alfred Wills & Sons, of Bath, for the construction of a reservoir and other works for supplying water to Westport, Hambridge, and Barrington. The scheme has been designed by Messrs. Bailey-Denton, Son, & Lawford, of Westminster.

PONTOON FOR STETTIN, GERMANY.—What is claimed to be the largest pontoon in the world has just been launched from the shipbuilding yard of Messrs. Swan & Hunter, Limited, Wallsend. The pontoon, which has been built to the order of the Vulcan Shipping Company, Stettin, to which port it will be towed, is 510 ft. long, 110 ft. wide, and 42 ft. 6 in. high, and its lifting power is put down at 11,000 tons. This weight can, however, be increased by tower auxiliaries similar to those introduced in the case of the large pontoon recently built by Messrs. Swan & Hunter for the Spanish Government. The sub-contractors for the machinery are the Wallsend Slipway and Engineering Company, Limited, who are responsible to the builders for a complete installation of machinery suitable for working the dock. The engines and the pumps were made by Messrs. Gwynne & Co., of Holborn, the valves by Messrs. Blakeborough, of Brighouse, and the boilers by Messrs. Riley Bros., of Stockton. During its construction, in addition to the supervision of the designers, Messrs. Clark & Standfield, Westminster, the dock has been under the personal supervision of Mr. Otto Haack, one of the assistant managers of the Vulcan Company.

MUNICIPAL WORKS, BIRMINGHAM.—Mr. G. W. Willcocks, one of the Inspectors of the Local Government Board, conducted an inquiry at the Council House, on the 17th inst., relative to an application by the Corporation for power to borrow moneys amounting altogether to 38,010*l.*, for the purpose of carrying out various municipal works—27,200*l.* for street improvements, 4,610*l.* for sewerage, 2,500*l.* for the purchase of the leasehold interest in certain land for market purposes, 600*l.* for payment to the Great Western Railway Company in respect of the widening of Musgrave-road and Bacchus-road bridges, 600*l.* for the diversion and covering in of the Spark Brook near Golden Hillock-road, 500*l.* for the provision of additional stabling at Harborne Wharf, and 2,000*l.* for purposes in connexion with the laying out of Harborne Recreation Ground. There was no opposition to the various proposals.

STREET IMPROVEMENTS, &C., ILFORD.—Mr. H. P. Boulnois, M.Inst.C.E., Local Government Board Inspector, recently held an inquiry into the application of the Ilford Urban Council for sanction to borrow 12,350*l.* for works of public street improvement and surface water drainage; 1,385*l.* for private street improvements; and 700*l.* for the provision of an underground convenience in the Broadway.—Mr. H. Shaw, C.E., Surveyor, said that last year new streets to the extent of 13 miles 1,002 yards were laid out.—There was no opposition to the application.—The Inspector afterwards visited the various roads.

THE RECONSTRUCTION OF REGENT BRIDGE, ABERDEEN.—A meeting of the Works Committee of the Aberdeen Harbour Board was held on the 19th inst. to consider the report of Mr. Nicol, Harbour Engineer, on the reconstruction of Regent Bridge. Mr. Nicol's estimate brings the total cost of the whole works up to 49,700*l.* The committee approved of the plans.

WATER SUPPLY, TATSFIELD, SURREY.—The Rural District Council of Godstone have instructed Messrs. Bailey-Denton, Son, & Lawford, of Westminster, to report as to the best means of providing an efficient water supply for the parish of Tatsfield.

STAINED GLASS AND DECORATION.

WINDOWS, BURGHWALLIS CHURCH, YORKSHIRE.—Two new stained-glass windows, recently placed in Burghwallis Church, have just been dedicated. One window is in commemoration of the Queen's Jubilee. The windows were supplied by Messrs. J. Powell & Sons, London.

ROOD SCREEN, &C., DOWN AMPNEY CHURCH, GLOUCESTERSHIRE.—A rood screen has been placed in Holy Trinity Church, Down Ampney, and other additions internally have been made to the church. The rood screen and the other additions are from the design of the architect, Mr. Chas. E. Ponting, F.S.A., of Marlborough. The screen has been erected immediately beneath the chancel arch, and now marks the line of demarcation between the nave and chancel. It consists of three bays on either side of the doorway. These are carved above, and have their lower panels filled with tracery. Each bay has an ogee head with carved crockets, terminating with *fleur-de-lis*, and surrounded by a pierced tracery. From moulded caps springs the traceried groining which runs the whole length of the screen, both on the eastern and western sides. Between the bays are ornamented springers, finishing with sculptured heads. Above the groining an inverted cresting marks the commencement of the main cornice, and upon the latter there are carved symbolical ornaments, interspersed by carved angels in devotional attitudes, surmounted by a pierced cresting through which run buttressed pinnacles supported by angels holding shields whereon are carved emblems of the Passion. Above the whole rises a rood cross. On the eastern side of the screen much carved work is introduced. The screen has been made entirely of oak. The reredos is fixed upon a re-table of Hopton wood marble, the *mensa* of the altar also being of the same material. The reredos proper is composed of oak. The central panel consists of a representation of our Lord crucified, with the Blessed Virgin and St. John standing at the foot of the cross, all in high relief. In niches at the sides are a quartette of angels carved in the round, the whole surmounted by a carved canopy. The north side of the reredos is occupied by carved figures of the four great Virgins of the Latin Church, viz., St. Cecilia, who is shown with the organ as her emblem; St. Agnes, with the lamb; St. Agatha holds the shears; and St. Lucia bears aloft a lamp and carries a palm. In the south compartment are the four Latin Fathers, St. Jerome being habited in the hat and robes of a cardinal, bearing a Church in his hand; St. Ambrose wears the episcopal robes as Bishop of Milan, with mitre and crozier, and holds a knotted scourge; St. Augustine is also habited as a Bishop, and carries a book; and St. Gregory is in pontifical robes with a dove hovering around his head. The supports of the reredos are composed of *gesso* panels of gold ornaments. The whole of the sanctuary has been paved with marble. The church has been seated throughout in oak, as also have the side chapels. The south chapel has been enclosed with screens, the altar foot pace laid with marbles and the old tombs restored. The whole of the work has been carried out from the designs and under the direction of the architect by Messrs. Harry Hems & Sons, Exeter.

MOSAIC PAVEMENT, ST. CUTHBERT'S CHURCH, DARLINGTON.—The marble mosaic pavement which has been placed in the sanctuary of St. Cuthbert's Church was dedicated a few days ago. The pavement was designed by Mr. J. P. Pritchett, architect, the idea being taken from the "Divine Comedia" of Dante. A white marble slab let into the floor bears an inscription.

WINDOWS, ST. ANNE'S, EDGESIDE IN ROSSENDALE, LANCASHIRE.—Three stained-glass windows have just been unveiled in this church, in the chancel. They are from the firm of Messrs. Heaton, Butler, & Bayne, London.

DECORATION, &C., OF SCARBOROUGH UNITARIAN CHURCH.—This church has just been reopened, after having been closed for some weeks. The church has been cleaned and painted, a new organ erected, and the electric light installed. In addition to this, some fresco decorations have been painted upon the end wall, each recess or niche containing a figure in outline and colours upon a dull gold background. The figures are illustrative of the cardinal virtues, Faith, Love, Hope, Peace, &c., and each is surrounded by suitable ornament. The work has been executed by Messrs. Powell Brothers, Leeds, under the supervision of Mr. Connon, architect, of Leeds.

WINDOW, GERMAN CHURCH, BRADFORD.—A stained-glass window has been presented to the German Church at Bradford by Mr. Delius. The subject is from the picture by Hofmann, "Where two or three are gathered together in My name," &c. Messrs. Powell Bros., of Leeds, executed the work.

FOREIGN.

FRANCE.—M. Eugène Guillaume, the sculptor, has been elected a member of the Académie Française, in place of the late Duc d'Aumale. M. Guillaume, who was a pupil of Pradier, is in his seventy-sixth year. He won the Grand Prix de Rome in 1845. His most remarkable works are "Les Gracques," and an exceptionally fine bust of Prélat, which gained him the Medal of Honour in the Salon of 1867. He is the author also of some important works on the history and criticism of art.——The Medal of Honour for painting in the Paris Salon has been awarded to M. Henner; that for sculpture to M. Gardet. The architectural medal is not yet awarded.——The "Conseil Supérieur des Beaux-Arts" has, in the architectural section, awarded a travelling studentship to M. André, who has exhibited the drawings of Kom-Ombos and Sirot at the Salon.——The Department of Commerce has given to M. Macomble the concession for the construction of the electric railway to the 1900 Exhibition, to be made on the left bank of the Seine, in the shape of three travelling platforms of different speeds.——M. Carolus-Duran and M. Rodin have been awarded gold medals at the Vienna International Exhibition.——M. Benjamin-Constant is just completing the ceiling painting at the new Opera Comique. The principal foyer will be decorated by M. Maignan, and the vestibule to it by M. Joseph Blanc; the smaller foyers by MM. Toudouze, Raphäel Collin, and Gervex; the two principal staircases by MM. François Flameng and Olivier Merson. Two large statues by M. Falguière and M. Mercié will find place on the principal staircase. In the small vestibule preceding the Salle d'Attente will be placed the "Pensée" of M. Gustave Michel. In the house itself, above the curtain, two symbolical figures by M. Marqueste will support the armorial bearings of the Republic. The decorative features of the boxes and the balcony will be by MM. Coutan and Lombard. The six large Caryatides at the entrance have been executed by MM. Allar, G. Michel, and Peynot. MM. Guibert and Puech have executed two figures in the niches. The mosaics, the doors and the staircase balustrades have been carried out after the designs of the architect, M. Bernier.——At Fresnes-le-Rungis, on the 19th inst., new municipal buildings, courts, Mairie, and a large hall for public fêtes, are to be inaugurated.——M. Redont, architect, of Paris, has obtained the premium offered by the municipality of Reims for the best design for the transformation and embellishment of the squares and public gardens of that town.——The Salle des Mariages at the Hôtel de Ville of Bordeaux has been entirely restored and modified.——M. Falguière has been commissioned to model the statue of Alphonse Daudet which is to be erected at Nimes.

AUSTRIA.—A school-house and gymnasium are to be erected at Eferding as a jubilee memorial.——The plans and estimates for the new asylum at Klausenburg have been submitted to the building committee.——At an extraordinary sitting of the Council of Oderberg it was resolved to build a bridge over the Oder, at the Zollstrasse, as a memorial of the Imperial Jubilee. A bridge-building committee has been formed to expedite the undertaking. The cost will probably be 50,000 or 60,000 florins.——The new water-supply of Zwickau is to be carried out by

Herr Adolf Niklas, engineer, Töplitz, at a cost of 78,500 florins.——A regimental barracks, a hospital for women, a set of law-courts, a grammar school, a high school, a post office, a telegraph office, a custom-house, central offices for Government officials, and a convict-prison, are all to be erected in Teschen during the course of next year.——Public baths are about to be erected immediately in the town of Aussig at a cost of 40,000 florins.——New buildings for the high school at Kuttenberg are about to be erected. They will be fitted with all modern improvements, and will cost 186,115 florins.——The Austrian Society of Engineers and Architects (Der Oesterreichische Ingenieur und Architektenverein) of Vienna will celebrate its jubilee this year. At the end of November a special "festival meeting" will be held: the occasion will be celebrated by the foundation of a benevolent fund for indigent members, their widows and orphans.——A technical exhibition is to be held at Bozen between September 1 and October 15 of this year to celebrate the Imperial Jubilee. The following are the classes into which the exhibits will be divided:—I. Art Industries: woodwork (art carpentry, turning, wood-carving, ecclesiastical art, inlaying, &c.), metal-work (gold and silver filagree, artistic locksmiths' work, ironwork, copper work, and cutlery), stonework (carving, &c.), textile work, glass and ceramic work, paper, leather, and horn work (bookbinding, &c.), paperhanging and decorating work; graphic work (photography, lithography, printing, and engraving); II. Domestic Industries; and III. such Miscellaneous Industries as shall seem worthy of inclusion through their importance or originality.——The report of the committee on the designs for the Floridsdorf School competition, on which we commented some weeks ago, has been published. Out of thirty-nine designs sent in, it appears that none have been thought worthy of the first premium. The second premium has been allotted to Messrs. Wilhelm & Schneider, architects, of Berlin.

GERMANY.—One of the objects of the Prussian Academy of Public Works is to advise the various local authorities in technical and architectural questions. The report on the development of Berlin, published a week or two since, is one of the most important papers which it has issued of recent years. Certain principles are laid down both for street improvements and for future extensions of the suburbs, and advice is given to private individuals concerned, to the Government or Municipal Authorities, as the case may be, to consult together and even to compromise their various interests, instead of individually fighting for their special purposes irrespective of the general advantage. This report, therefore, is worth the attention of our municipal officials.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Mr. C. C. Lindsay, Civil Engineer, has removed from 167, St. Vincent-street, Glasgow, to 217, West George-street, in the same city.——Messrs. Geo. Trollope & Sons, builders and contractors, announce that in consequence of the Commissioners of Works having acquired and pulled down No. 15, Parliament-street, which has been occupied by their firm since 1777, they have opened new offices at 14, Mount-street, Grosvenor-square, and at 5, Victoria-street, Westminster. The new offices will be in direct telephonic communication with Messrs. Trollope's other offices.

THE CRIPPLEGATE FIRE AREA.—The Improvement and Finance Committee of the City Corporation on Thursday last week, presented their report on the desirability of taking steps to effect improvements in the area devastated by fire in Cripplegate. They recommended that no further action should be taken in the matter, as the London County Council regarded the improvement as a local one, and declined to contribute unless the freeholders would surrender the land and the leaseholders gave up their trade interests in the part of the site necessary for the construction of a main street through the area. Mr. Henry Clarke regretted that the opportunity of relieving the congested state of Newgate-street was to be lost, but the London County Council stood in the way, and on them must be the responsibility. Sooner or later the improvement would have to be made. An amendment to refer the report back for further consideration was negatived, and the report was adopted.

OPEN SPACES.—The Hon. E. Chandos Leigh, Q.C., Chairman of the London Playing Fields Committee, makes an appeal for subscriptions towards a sum of 9,800*l.* for purchasing the freehold of Prince George's Ground. The ground, extending over about 25 acres, lies near the Raynes' Park station, at Merton, Surrey, and is at present leased to the Committee for football and cricket.——On Saturday, 14th ult., Charles-square, Hoxton, was opened to the public, having been acquired at a cost of 300*l.* The needs of this thickly-populated quarter will be met further by a scheme in respect of the churchyard of St. John, Hoxton, under a faculty, to be applied for this month, for removal of the tombstones and monuments, and for dealing with the ground in terms of the Open Spaces Acts, 1877-90. The church, dedicated to St. John the Baptist, was built after the Georgian style in 1825-6.——At a recent meeting of the Metropolitan Public Gardens Association it was announced that the Home Secretary had refused to grant a license to build over the disused burial-ground, commonly known as the "Cross-Bones," in Southwark; so it is hoped that this area, of about 13,000 square feet, and latterly used as a builder's yard, will shortly be laid out as a public garden; it stands at the corner of Red Lion and Union streets, and appertained to St. Saviour's, being used for the inmates of the licensed stews in Bankside, abolished *temp.* Henry VIII.——We understand that it is proposed to sell to the Twickenham District Council the Peel Estate, Marble Hill, about 66½ acres, with a wooded frontage of 2,000 ft. to the river. The house has been untenanted for some years, the last occupant being, we believe, the widow of General Peel. The property was offered for sale by auction in June, 1888, and withdrawn after a bid of 52,000*l.* The house, designed by Lords Burlington and Pembroke, was built for Henrietta Howard, afterwards Countess of Suffolk, George II. contributing from 10,000*l.* to 12,000*l.* of the cost, and was the home of another royal favourite Mrs. Fitzherbert, who, it appears, removed thither from the Terrace, Richmond Hill. In our "Note" of May 5, 1888, we adverted to the design and construction of the house, for whose interior mahogany wood was largely used, the main staircase and the flooring of some of the rooms being made of it. The name of "Jeanie Deans's Walk" has been given to the avenue of elms between the back of the house and the Thames, but this is clearly a mistake, for Sir Walter Scott lays the scene of the interview with Queen Caroline in Richmond Park, which the Duke of Argyll and Jeanie Deans entered on passing through a postern in the high brick wall built for Charles I., and since removed. George II. and his consort occasionally occupied the White Lodge in the Park.

CHURCHYARD CROSS, CARDIFF.—A churchyard cross has just been dedicated at St. John's, Cardiff. The architect chosen when the work was decided upon was Mr. C. B. Fowler, of Cardiff, who has been employed all through the church restoration. It was decided to utilise a stump of the ancient cross, but upon examination it was found that a large foundation had been covered by earth, and this also was restored. The shaft has been added to, and an ornamental head provided. The shaft and head are of Portland stone, and the carving was carried out by Mr. W. Clarke, of Llandaff. The design of the head represents the Crucifixion on one side and the Ascension on the other side, surmounted by a canopy and crocketted pinnacles.

THE NEW OLYMPIC THEATRE. — A company, under the name of the New Italian Opera Syndicate, is about to be formed for giving lyrical performances, at popular prices, in this house, of which the unexpired lease for fifty-two years from last Christmas at a rent of 2,250*l.* a year has been secured, together with the leases of Nos. 16-17, Craven-buildings, and an adjoining plot of land for an equal term, at a ground-rent of 162*l.* 10s. Some interior alterations and other works will be carried out by the Syndicate's architect, Mr. Bertie Crewe. The lease of the theatre has been valued by Mr. Crewe at 52,000*l.*, and at 50,000*l.* by Mr. Edward Clark, the architect. In March, 1893, a company was formed for converting the New Olympic Theatre into a music-hall (opened on August 7 of that year); it had been built after the plans and designs of Messrs. Crewe & Sprague by Messrs. Holliday & Greenwood, who made a tender of 21,577*l.*, and was opened on December 4, 1890, by Mr. Wilson Barrett, lessee. In June, 1893, Messrs. George Veale & Co.'s tender of 2,350*l.* was accepted for certain alterations, redecoration, &c., of the music-hall, but by an order of Mr. Justice Stirling in Wilmot *v.* Olympic Music-hall and others, the sale by auction of the property was fixed for June 29 of the following year. In our issue of December 13, 1890, we gave a description of the decorations, fittings, and other features of the new and enlarged house; it extends round from Craven-buildings to Maypole-alley, replacing the theatre that was built in 1849* on the site of the old Olympic Pavilion, which Philip Astley had erected, after his own designs, for a circus in 1805-6, using the timber and spars of a French man-of-war, *La Ville de Paris*, given to him by George III., wherein William IV. had served as a midshipman; Elliston conducted it under the name of the Little Drury-lane Theatre. The present theatre, occupying with Craven-buildings the site of Craven House, covers about 14,000 ft. superficial, has a capacity for more than 3,000, a stage 54 ft. deep, and a proscenium 34 ft. wide; from the stage to the roof above is 65 ft.

LIVERPOOL SCHOOL OF ARCHITECTURE AND APPLIED ARTS.—At a meeting of the Board of the University College, held recently, Mr. J. Herbert M'Nair, of Glasgow, was appointed to take the classes in design in succession to Mr. Anning Bell.

OPEN SPACE, WOLVERHAMPTON.—On the 23rd inst. the burial-ground which surrounds St. George's Church, Wolverhampton, was opened as an open space. The Baths Committee undertook the laying out, according to a design prepared by the Borough Surveyor (Mr. J. W. Bradley, C.E.). The cost of the undertaking has been 1,000*l.*, and the contractor engaged was Mr. H. Holloway. Nearly 700 trees and shrubs of various kinds have been planted, over 300 gravestones have been removed, walks and flower-beds have been made, wrought-iron seats fixed here and there, and two new entrances placed, one in Cleveland-street and another in Bilston-street.

ELECTRIC LIGHT, DARWEN.—A Local Government Board inquiry was held at Darwen on the 25th ult. into an application by the Corporation for powers to borrow 30,000*l.* for electric lighting, and other sums for other purposes.

GRIMSBY MASTER BUILDERS' ASSOCIATION.—A meeting of the employers, convened by the Grimsby Master Builders' Association, was held at the Masonic Hall recently, to consider the best steps to be taken for the mutual protection of employers by reason of the extra liability thrown upon them by the Workmen's Compensation Act, 1897. Mr. J. H. Thompson presided. The Chairman said the provisions of the Act had been discussed in the meetings of the Association, but they had thought it best to call a public meeting of employers, for them to devise the best means to cover extra risk thrown upon them by the Act.—Mr. Tonge, the solicitor and secretary to the Association, said that before the passing of the Act of 1897, unless there was any personal negligence on the part of the employer, there was little liability attached to him, but the alterations to that by the new Act were drastic. Now pure misadventure and accident were no longer a defence, while formerly it was. The employer was now liable in respect to the negligence of any person, whether in the employer's service or not. Formerly it was limited to the negligence of the foreman. The workman's knowledge of a defect was no longer a defence; formerly it was. Contributory negligence could no longer be pleaded, unless it amounted to serious misconduct. The defence of common employment was completely gone. There was no contracting out except for equal or agreed benefits. Formerly contracting out on any agreed basis was permissible. There was now liability for sub-contractors; formerly there was none. There was liability in respect of workmen engaged in manual labour or otherwise. It was formerly restricted to persons engaged in manual labour only, but now a clerk or an errand boy might obtain compensation. There was also a difference with regard to procedure, and in the time of notice for the bringing of an action, while the County Court work was swept away and arbitration substituted. The Act applied to employment on a railway, in a factory, mine, or engineering works, in buildings which exceeded 30 ft. in height, and buildings which were being constructed or repaired by means of scaffolding, or being demolished, or any large machinery driven by steam, water, or other mechanical power that was being used for the construction, repair, or demolition thereof. All under the old Factory Act came under this new Act. The statute was the most sweeping and far-reaching one for the benefit of workmen ever passed by the House of Commons, and cast upon employers grave responsibilities. He looked upon the most serious part as that of the employer having to compensate in case of total disablement, and they might have to contribute to a workman for the rest of his life, so that that might exceed the maximum in case of death, which was 300*l.* It was an Act, and could not be avoided, and it was for them, therefore, to see how they could best reduce the risk.—The Chairman said he should think most of the employers were insuring against the risk at common law; he was doing so. Mr. Marrows said the Master Builders' Association had been considering the question of how they could insure against the risk, and had suggested one or two methods. Among these were the looking out of two or three of the likeliest insurance companies, the forming of a mutual insurance company for the town, and the formation of a limited liability insurance company by shares. The difficulties in the way of the mutual company were that they would not know when their liabilities were at an end, and if a limited liability company were formed to cover death it would be necessary to deposit with the Accountant-General the sum of 20,000*l.* before any capital was formed. Mr. G. L. Alward and Mr. C. F. Carter both suggested the formation of a mutual insurance company. On the suggestion of Mr. Carter, the Chairman took a vote from the persons present of the number of persons who had been killed in their employ, and it was shown that there had only been two such fatalities, and these occurred twenty years ago. Mr. Carter moved that a committee be selected to fully consider the advisability of forming a mutual insurance society to cover the risk of employers under the Workmen's Compensation Act, 1897. Mr. Alward seconded the resolution, which was carried, and a committee, including the Mayor and Alderman Doughty, M.P., was appointed.

CHURCH-ROW, HAMPSTEAD.—It appears that the movement for preserving the threatened houses in Church-row has met with ill success. At any rate we notice that the site is being cleared of the houses on the north side, next east from No. 5, and the ground is, we understand, to be occupied by a block of residential flats.

ARBITRATION CASE.—Mr. Arthur Cates, Chairman of the Tribunal of Appeal, acted as arbitrator on the 27th ult., in a claim for 15,000*l.* for a piece of land with a frontage of 1,513 square feet in Great Smith-street, required by the Vestry of Westminster

* F. W. Bushill, architect: See plan, interior, and section in the *Builder*, Dec. 22-9, 1849.

for their scheme of widening that street. The arbitrator reserved his award.

LEEDS BUILDING BY-LAWS. — The building Clauses Committee of the Leeds Corporation are still busy framing the new building by-laws. They have decided to call in two or three experts in the iron and engineering trades to advise them concerning the modern structural requirements of an engineering shop. The present by-laws only permit the erection of chimneys built of stone or brick. Iron chimneys will probably be allowed under the new by-laws.—*Leeds Mercury.*

ANNUAL OUTING, CLERKS OF WORKS' ASSOCIATION.—The annual outing of the Clerks of Works' Association of Great Britain will take place on Saturday, July 16, Portsmouth being the place selected.

THE GALLIERA MUSEUM, PARIS.—With reference to the remarks in our note of last week on this building, we are informed that it was under the orders of M. Ginain the architect, and not under those of the Paris Council, that the building was spoiled by the insertion of barred windows in the open arcade in front. The blocking up of the side entrances and the disuse of the side porticoes is said to have been rendered necessary from the fact that these porticoes became a refuge of bad characters. It seems much to be regretted that so exceptional a building should have been spoiled in this way.

CAPITAL AND LABOUR.

PLUMBERS' STRIKE IN THE HARTLEPOOLS.—The agitation for an increase of wages by the operative plumbers of the Hartlepools has resulted in a strike, the men to the number of over 100 having left work. The men are demanding an increase of 1d. per hour, their present rate of pay being 7½d. an hour. The masters are resisting the demand on the ground that they are at present paying the full wages of the district, whilst the men, on the other hand, declare that both at Stockton and Middlesbrough the wages are 9d. per hour.

SUNDERLAND BRICKLAYERS' WAGES.—The Sunderland bricklayers, and those employed in the district, have given notice to the secretary of the Master Builders' Association for an advance of wages of 1d. per hour. The present rate of pay is 9d. per hour. They have requested that the advance should take effect from July 25 next.

WAGES IN THE BUILDING TRADE, LOOE, CORNWALL.—A meeting of the builders and their employees, Looe, has been held in the Drill Hall, the object being to take into consideration notices given by the employees, first, for an increase of ½d. per hour, and, second, to leave work at 1 p.m. on Saturdays. After discussion, it was agreed that in consideration of the present depressed state of trade in the district, a rise of wages at such short notice was not justifiable. But in order to meet the demands of the workmen in as reasonable a way as possible, it was agreed that the men should leave work at 1 p.m.; that to make up for the shorter number of hours an increase of ¼d. per hour be conceded; and that the altered terms commence from Saturday, June 25. It was also further agreed that after that day all Bank holidays should be observed as holidays by the workmen.

SETTLEMENT OF THE LEIGH JOINERS' STRIKE.—After lasting three weeks, the joiners' strike at Leigh, Lancashire, which has affected about 100 men, terminated at a conference in Leigh of the representatives of the masters and men. The terms of the settlement are that the wages shall be increased from 8½d. to 9d. per hour, the hours reduced from 51 per week to 48½, that two apprentices be allowed for four men, four for eight, and six for sixteen, and no payment made for walking time within a distance of one and a half miles.

WAGES IN THE NEWCASTLE BUILDING TRADE.—Some time since the members of the Newcastle, Gosforth, and District Operative Stonemasons' Society sent in an application to the Master Builders' Association, to expire on June 4, for an advance of 1d. per hour in wages, bringing the minimum rate up to 10d. per hour. The employers offered an extra ½d. per hour conditionally on the men returning to the nine-hour day. This was refused, and, as the result of further negotiations, the master builders have conceded the full advance asked for on condition that the wallers and setters return to the nine-hour day—the banker hands still to retain the eight hours. This offer the men have accepted, for the reason, as they say, that the joiners and bricklayers had not, as they had anticipated, gone in for a reduction of hours.

ADVANCE OF CARPENTERS' WAGES AT WREXHAM.—The operative carpenters and joiners of Wrexham recently asked for an advance in the standard rate of wages, and the request, it is stated, has now been generally granted. The men have received an increase of ½d. per hour from twenty-four of the largest firms.

THREATENED STRIKE OF LEEDS PLUMBERS.—Some months ago the operative plumbers of Leeds intimated to their employers that they required an advance of wages to the extent of a penny per hour, together with alterations in the working rules. They have been receiving 8d., and they want 9d. In the interval the masters have endeavoured to effect a compromise by offering 8½d. per hour, but so far have failed in their object. The men insist on 9d., and for the further consideration of the matter a meeting of the local branch of the Master Plumbers' Association was held on the 27th ult., Mr. John Skirrow, President, in the chair. The result was the confirmation of the decision to offer an advance of a halfpenny per hour. Sheffield, it seems, is the only town in the county in which the plumber is paid 9d. per hour, and that being so, the Leeds employers feel that, if they conceded 9d., whilst adjacent towns, such as York, Bradford, Halifax, Huddersfield, and Dewsbury, were continuing to pay less, they would be subject to unfair competition, inasmuch as a considerable proportion of the work now undertaken by Leeds shops is beyond the city boundaries. The representatives of the men, on hearing the masters' decision, plainly indicated that it is the intention of the operatives to come out on strike when their notice terminates unless their terms are granted. The masters' organisation comprises sixty shops, and all the larger ones; the operatives concerned number between 300 and 400.—*Leeds Mercury.*

THE DISPUTE IN THE BOLTON BUILDING TRADE.—A meeting of Bolton joiners was held on the 27th ult. to consider the present dispute. The operatives demanded Easter Monday as a holiday, an increase in overtime rates, an addition to the sum allowed for lodging money, and the introduction of an apprentice rule. The employers gave way on all points except the apprentice rule. They declined to allow any restriction of the number of apprentices. They, however, have agreed that in future apprentices shall be bound. This was accepted by the men, and a strike has now been averted.

LEGAL.

THE WESTMINSTER BUILDING DISASTER.

AT the Coroner's Court, Horseferry-road, Westminster, on Thursday last week, Mr. John Troutbeck, the Westminster Coroner, sitting with Mr. John Slater, as assessor, resumed the inquiry into the circumstances attending the deaths of the seven men who were killed by the collapse of the roof and interior of Abbey Mansions, Orchard-street, Westminster. In our last issue we gave the verdict of the jury in the case, but we were not able to print the following notes of the Coroner's summing up.

The Coroner said that the jury had a very difficult duty to perform—to say how the building collapsed. First of all he would ask the jury to dismiss from their minds the evidence of the workman Collins, as not only had it been denied, but it was entirely unsupported, and there seemed no doubt but that he was quite wrong in what he said. Whether what he said was wilfully wrong he did not wish to discuss, so that it would be better not to think of that evidence at all. As regarded the collapse, they had heard exhaustive evidence that the interior and roof of the building fell, and they had to be assured in their minds before giving a verdict what actually gave way. They had heard that the concrete of the roof first gave way, but they also had it that the pier collapsed; but what they had to decide was "which gave way first?" They might say that both gave way together, but whichever view they adopted he hoped they would be unanimous. The duty of the jury was to seriously consider the question of criminal liability. Any question of liability to the deceased's relatives was not for their consideration, but they had seven men killed, and who was responsible was the object of their consideration. They must consider the case on every point, but he was glad that the persons most concerned had engaged counsel, who had undoubtedly assisted the inquiry. The jury had to consider the positions of Mr. Pawley, Mr. Rickard, Mr. Murrell, and others. The Coroner then read portions of the evidence to show what each of the witnesses had said as to his own position. The jury had also to consider the point as regards the plans, and whether it was sufficient that plans should be drawn without full details as to the brickwork. With regard to Mr. Pawley, he had himself said he had a free hand in this building; and even after the Admiralty took over the building on November 19, 1897, although Mr. Simpson had charge, he was Mr. Pawley's assistant, and Mr. Pawley admitted that he was still responsible. Mr. Pawley had said that he had distinctly ordered the centring not to be struck, and it was a most serious question to consider who did order it and why it was done despite Mr. Pawley's orders. Again, as concerning the plans of the piers, they were not in accordance with the evidence, whilst the stanchion was not put in at all, and whether that affected the accident, the jury must draw their own conclusions. Mr. Murrell had said that he struck the centring on Mr. Simpson's orders, which was very important, as Mr. Pawley had said he took all responsibility for his assistant, Mr. Simpson. He (the Coroner) thought respecting Mr. Andrews that it was extraordinary that he, the general foreman, was unable to give the details of the pier, whilst the very important arched hole in the wall was not mentioned until Wednesday by any one, and then only by one of the labourers. He really considered Mr. Andrews's evidence very unsatisfactory, while his admissions that certain portions of the building were put up without plans would seem incredible but for it being proved. Then the concrete had been proved by independent experts to have been improperly mixed, and Mr. Andrews's admissions that he himself saw some go up to the roof, he (the Coroner) considered very important in view of the disaster. It was very important for the jury, in considering what caused the accident, to recall the various witnesses' evidence as to what they first heard and saw. The question of the girders he did not think now affected the inquiry, which had been clearly reduced to two things—the pier and the concrete roof. The evidence was in this case, as it always was in such cases, very conflicting, but he hoped the experts had somewhat cleared up the discrepancies, and that they would not find any difficulty in arriving at a conclusion. The remark supposed to have been sent by Mr. Murrell to the foreman Parker, by telephone, "Don't strike the centring, but go on with the joists to please Simpson, who is the best pal we've got," he (the Coroner) thought almost incredible. According to that, Simpson told Murrell not to do it. Murrell telephoned Parker not to, yet they were asked to believe that Parker, in spite of contrary orders and knowing the danger, set his men at the work. Such evidence seemed hard to believe. Possibly the most important and reliable evidence was that of the stonemasons. Their evidence was most emphatic that they saw the pier "buckle" and then fall, and they were positive that the pier fell first. Considering the expert evidence they must remember that those witnesses were men thoroughly able to speak on such matters, and had given their opinions and the reasons for their opinions. Of the two independent experts—Mr. Drury and Mr. Thomas Blashill—they appeared to lean toward the suggestion that the pier gave way through faulty construction, but the other three experts inclined to the belief that the concrete fell first. He would not think of suggesting that the three experts called by Mr. Pawley had not given their truthful opinions, or had been influenced, but what the jury had to consider was the reasons given by all the experts for their opinions. The Coroner threw emphasis, in conclusion, on the fact that the man who received the extraordinary telephone message, which seemed hardly within belief, that was Joseph Henry Parker, was dead, and so that point could never be settled.

The jury retired to consider their verdict, and after a consultation lasting over an hour, they returned into court, and, in answer to the Coroner, said:—"The cause of the collapse was the faulty design in the construction of the pier due to the culpable negligence of the architect. Further, the jury are of opinion that some of the concrete was improperly mixed; also, that they feel that greater control should be allowed over the construction of buildings."

The Coroner: Well, that is a verdict of manslaughter against Mr. Pawley. I must say the verdict is very complicated, and I ask the jury to say whether in presuming that their verdict is, as I presume, one of manslaughter, I misjudge their wording?

The Foreman: It is as you suggest.

The Coroner: Then I must commit Mr. Pawley.

Mr. Marshall: Then, if the verdict is one of manslaughter against Mr. Pawley, I must say that he has given the Court every assistance, and I ask the jury's proof that Mr. Pawley has been legally liable as regards the death of these men.

The Coroner: The jury have given their verdict. Neither you nor I can question it; but, as regards Mr. Pawley, I am prepared to discuss the question of bail. I will accept 200*l.* his own recognisance, and 100*l.* his solicitor.

That being agreed to, the Coroner read to Mr. Pawley the jury's charge against him, and the inquiry closed.

EMPLOYERS' LIABILITY LAW.

AT Lambeth County Court on the 27th ult., his Honour Judge Emden, heard an action in which a painter named Boucher, sued Messrs. Holliday & Greenwood, builders, of Brixton, for damages under the Employers' Liability Act. On March 1, plaintiff was engaged in painting the gutter of a house in Josephine Avenue, Brixton, when the ladder upon which he was standing collapsed, and Boucher fell from a height of 35 ft. For plaintiff it was sought to make defendants responsible on the ground that they negligently allowed a defective ladder to be used. Among the witnesses called for the plaintiff was Mr. Benjamin Woollard, architect, who spoke to inspecting the ladder after the accident. The ladder, he stated, contained thirty-two rungs, but from what he saw there was no iron support at the top. Such an iron support would, in all probability, have prevented the accident. The ladder broke at a point three rungs from the top, and he discovered that both the rung and the upright were rotten.

The defence was a denial of negligence, but his Honour, in giving judgment for the plaintiff, said it was of the greatest importance that builders should, by periodical inspections and tests, assure themselves that their tackle and plant were sound. The new Act would cast upon employers very serious responsibilities in this matter. In the present case he had not the slightest doubt that the ladder was totally unfit for the job for which it was sent out of the defendants' yard, and, seeing the serious injuries which plaintiff had sustained, he should award him the full amount claimed—viz., 300*l.*—with costs.

MEETINGS.

FRIDAY, JUNE 3.

Royal Institution.—Professor W. M. Flinders Petrie on "The Development of the Tomb in Egypt." 9 p.m.

South-Eastern Union of Scientific Societies (continued).—Several papers to be read, including the following: "Ancient and Modern Dene Holes and their Makers" by Mr. C. Dawson; "The Place of Geology in Education," by Professor L. Lobley, F.G.S.; and "Photography in Relation to Science," by Mr. G. H. Baldock. 11 a.m.

SATURDAY, JUNE 4.

St. Paul's Ecclesiological Society.—Visit to the Church of Northolt.

Royal Institution.—Dr. R. Caton on "The Temples and Ritual of Asklepios at Epidaurus and Athens." I. 3 p.m.

South-Eastern Union of Scientific Societies (concluded).—10.30 a.m.

British Institute of Certified Carpenters.—Meeting at Carpenters' Hall at 6 p.m.

Edinburgh Architectural Association.—Annual Excursion, to Alloa.

MONDAY, JUNE 6.

Royal Institute of British Architects.—Business meeting: Annual elections. 8 p.m.

Surveyors' Institution.—Annual General Meeting, to receive the report of the Council and the announcement of the result of the election of officers for the ensuing year. 3 p.m.

Carpenters' Hall, London Wall (Free Lectures on Carpentry and Joinery).—Mr. James Bartlett on "The Setting out and Construction of Staircases, and Joists in Joinery." 8 p.m.

Society of Engineers.—Mr. E. A. Harman on "Gas Works Machinery." 7.30 p.m.

TUESDAY, JUNE 7.

Society of Biblical Archæology.—Sir H. H. Howorth on "Ancient Picture Writing." 8 p.m.

THURSDAY, JUNE 9.

Society of Antiquaries.—Ballot for the election of Fellows. 8.30 p.m.

FRIDAY, JUNE 10.

Institution of Junior Engineers (*Westminster Palace Hotel*).—Special meeting to welcome Sir T. Salter Pyne, C.S.I., Honorary Member of the Institution. 8.30 p.m.

SATURDAY JUNE 11.

Royal Institution.—Dr. R. Caton on "The Temples and Ritual of Asklepios at Epidaurus and Athens." II. 3 p.m.

RECENT PATENTS:

ABSTRACTS OF ACCEPTED SPECIFICATIONS.

Open to opposition until July 11.

[1897.] 8,510.—PAINT OR COMPOSITION FOR USE AS A COATING IN THE MANUFACTURE OF ARTIFICIAL SLATES, AND FOR COATING TILES, PLATES, &c.: *C. A. & J. H. & A. R. Hakanson.*—To a coloured fine-grained mass, one kilogramme, of sandstone, or sand, are added 73 grammes of boiled linseed oil, 108 grammes of a warm solution of boiled glue, 18 grammes of cerotine, and 18 grammes of turpentine; the jelly thus formed is spread over the pieces of paste-board which are to form the slates, or are to be used for inlaying or covering purposes; when it has dried on the pieces, the latter are coated a second time, placed upon a long level table, and pressed with elastic spatulas made of thin spring steel; for paste-board, leather or cloth may be substituted, whilst to give the composition a paint-like consistency linseed oil can be added.

10,971.—IMPROVED TREAD FOR FLOORS, STAIRS, STEPS, &c.: *W. Shelton & M. Rolf.*—The inventors construct a tread, made of wood, iron, steel, brass, &c., which is fitted with a removable pad of gutta percha, india-rubber, leather, &c.; the pads may be double or single, or double pads reversible, to admit of replacement or turning, when worn down.

11,299.—METALLIC STAIR TREAD: *G. Kemp.*—A steel or iron plate has holes for receiving lead or other metal blocks whose top sides are squared with chamfered edges, the blocks are rivetted or cast into the plate, and may also be rounded, without chamfered edges.

11,908.—KILNS FOR BURNING BRICKS, TILES, QUARRIES, AND SIMILAR ARTICLES: *G. B. Webster.*—The improvement lies in constructing kilns or kiln chambers with hollow or flued back and side walls in series, that is, end to end, and in single or parallel rows; the end chambers in the latter case have side communications; the side and back flues are, preferably, provided with dampers.

13,765.—WASHING FURNACES, SINKS, AND BATHS: *A. E. Newton.*—Under a combination furnace and bath are placed bars and a fire hole, and in one corner of the furnace an overflow pipe: the sink, dished in the ordinary manner, may be formed of galvanised or enamelled iron, with a waste outlet, and an overhanging projection around its outside to prevent the grease from being splashed on the furnace; a grid may be fitted as a ledge across the sink, and a side drainer may be hinged to the sink or furnace.

13,823.—A FIRE ESCAPE: *J. J. Markell.*—The contrivance comprises a trap-door in the floor of a balcony, bolts hinged beneath the door and having their free ends entered into eyes beneath the floor, a flexible ladder secured to the wall and normally looped up on to the bolts beneath the balcony floor.

14,391.—INSERTING JUNCTIONS OR REPLACING DAMAGED PIPES IN EXISTING SEWERS WITHOUT DISTURBING THE SAME: *A. Wakefield.*—To break up the pipe which is to be removed the inventor provides an invert consisting of, say, one half of the pipe so formed that the upper edges are swelled or bellied out to allow of a flange or socket being formed therein or thereon running the whole length of the pipe (its spigot excepted) and being carried round the socket, a channel groove or pocket being made sufficiently wide to let the edges of the upper half of the pipe rest in the pocket thus made flush with the sewer and for filling in. The invert is fixed thus: the pipe to be removed is broken up and the ground or soil under it is removed for a few inches, the invert is then placed with its socket end over the crown of the spigot end of the adjacent pipe, and its spigot end is inserted into the socket of the opposite pipe, and revolved until it assumes the desired position, the soil beneath is rammed, the upper half is placed over the invert with its edges or arms resting in the pocket, and the space in filled up with cement.

14,953.—FOLDED MAPS OR PLANS: *T. Turley.*—The claim is for a map or plan divided into strips, the strips being again marked into sections so arranged that they can be folded and superposed for enabling the sections of the map or plan to be viewed as required, covers being supplied so that the whole takes the shape of a book; the map (or plan) has on the left hand a plain margin equal in width to its width when folded; it is then cut into horizontal strips ending at the margin, the strips are folded alternately backwards and forwards, at the left end edge of the map's printed portion a vertical cut is made from the lower edge of each strip and reaching halfway up the strip; the lower strip is not thus cut. The upper folded strip is now placed on the top of the second folded strip, and the wide margin receives two horizontal folds, one level with the bottom of the first strip and the other at the top of the short vertical cut in the first strip; the first and second folded strips are then placed over the third strip, the wide margin is again folded, and so on, until all the strips lie on the lowest strip, when the wide margin is folded over the whole.

16,939.—BLOCKS FOR BUILDING TRIMMER ARCHES, COUNTER HEARTHS, FLOORING, OR THE LIKE: *C. Green.*—Within the recess or space for the hearths, or the like, are placed concrete, cement, or metal blocks, moulded with male and female lips or grooves to make a fireproof joint: for fireproof floors the blocks, moulded with lips and grooves, have their ends so shaped that they may suit the webs of the girders, and take the place of the usual concrete or cement which is first laid on a temporary flooring of wood.

19,106.—MOULD-SANDING MACHINES, PARTICULARLY FOR USE IN BRICK-MAKING: *G. V. Maxted & C. McDermott.*—The machine has a series of alternate shelves and platens supported tangentially about a central axle, which is mounted within and across a trough (semi-circular in section) containing sand, so that the front edges of the platens come into close proximity with the trough's interior surface.

27,235A.—DEVICE FOR CLEANING SINKS, WASH-BASINS, BATH TUBS, &c.: *J. Wrigley.*—The device, wound upon a reel and mounted in a revolving frame, has its axle at right angles to the axis of the frame, and has a coil or spiral upon the reel which penetrates the frame near the centre line of its axis, with a tool at the free end of the coil.

[1898] 4,510.—METALLIC LATHING FOR CEILINGS, ROOFS, PARTITIONS, &c.: *H. L. Cunnah & H. A. Hughes.*—The corrugated or grooved laths are perforated, have their edges turned over at an acute angle to form a key for the plastic material, and are made with or without ribs and grooves lengthwise.

5,494.—CLIPS OR BANDS CHIEFLY DESIGNED FOR USE IN THE CONSTRUCTION OF SCAFFOLDING: *V. Berrurier.*—At one end of a metal cable is a length of chain intended to serve as a length adjuster, to be hooked to a lever joined to the cable's other end; the lever has a hook to receive a link of the chain, the hook being adapted to be turned down; between the lever and the cable's end is a plate for supporting the lever when turned down, to which is pivotted a hook on the lever having a hole therein into which a pin is placed to secure the lever when turned down; instead of the chain may be substituted a simple buckle loop to hook into one of the notches made in the tension lever.

7,135.—A WALL PLUG: *F. Beyer.*—The plug consists of a tubular part which is cone-shaped or tapered and has a slit at one end, with it is combined a nut or expander, to be drawn into the tube by a screw, for securing it in the wall.

NEW APPLICATIONS.

May 16—20.

11,089, R. Wadsworth, Machines or Carts for Spreading Sand, Ashes, Salt, &c., over the surface of the ground. 11,092, Wynns & Radford, Shovels, Scoops, and the like. 11,094, Kinniburgh & Barr, a Holder for Paint, Whitewash, and other Brushes. 11,098, Place & Jolly, Valves and Taps. 11,104, J. F. M. Pollock, Manufacture of Bricks, Tiles, and the like. 11,113, J. R. Cooper, Decorative Process in Plaster or Cement. 11,116, T. Kemp, for Testing Drains and Soil Pipes with Chemicals. 11,134, Lallement & Others, Gas or Petroleum Motors. 11,146, C. Kern, a Chimney Cowl. 11,153, Siemens & Halske A.—G., and 11,290, Jackson & Co. and Mensing, Electric Arc lamps. 11,157, W. Langdon-Davies, Alternating Current Motors. 11,158, F. J. Sprague, Traction Systems. 11,161, Strode & White; 11,248, R. T. Nicholson; and 11,377, T. R. Fowler, Acetylene Gas. 11,170, A. Taylor, Hydraulic Presses, and the Manufacture thereby of Artificial Stone Slabs or the like. 11,171, A. B. Williams, Acetylene Lamps. 11,172, L. Lacombe Fils, Telemetric Telescopes or Telemeters. 11,173, O. Wilk, Door and similar Fastenings. 11,175, Callow & Eck, and 11,302, A. Brier, Electric Switches. 11,176, F. J. Staynes, Hanging Bars and Coal-Savers for Fire Stoves. 11,179, Quin & Adair, Street Directory or Indicator. 11,185, E. B. Wedmore, Starting Devices for Monophase Electric Motors. 11,197, W. Richardson, a Folding Lamp. 11,213, R. Hare, a Locking Hinge, applicable for Hanging Gates, Doors, Windows, or the like. 11,222-5, Price & Turner, Gas Stoves. 11,233, A. Adams, a Screen or Sieve. 11,234, R. Norwood, a Coating Compound or Paint. 11,237, L. West, Bevelling the Edges of Glass plates. 11,255, Fowler and Others, Reducing or Extinguishing the Electric Arc formed on Breaking Electric Circuits. 11,261, F. A. Kieffer, 11,303, H. S. Stott, and 11,422, G. Hope, Acetylene Gas Generators. 11,268, Fitzner & Janke, a Bank or Quay Protector. 11,281, J. H. Weiss, Turning-Lathes for producing Round, Oval, Polygonal, and other Shapes upon Wood, Metal, and other Substances. 11,288, M. Conrath, an Expanding Table. 11,307, A. Spark, Ampère-meters, Volt-meters, Watt-meters, &c. 11,310, Bacon & Best, for Hanging Maps, Charts, and the like. 11,312, F. Cornelius, Opening and Closing Doors, &c. 11,324, Dean & Pollard, Heating, Ventilating, and Drying. 11,325, B. Stocks, Combined Rib and Coal-saver for Fire-places. 11,337, A. G. Webster, Alarm, Call, and other Bells. 11,340, E. A. Jahncke, Electric Batteries. 11,347, M. L. A. Bohle, Registering Apparatus for Cranes, Lifts, &c. 11,353, Ferguson & Ferrell, Commutators for Dynamo Electric Machines and Electric Motors. 11,357, W. O. Baumgartner, Devices for Draining, Separating, and Storing Rain Water Shed from Roofs. 11,360, K. Weinert, Globe Holders for Enclosed Electric Arc Lamps. 11,371, N. Simmons, Flushing Cisterns and Jointing Pipes thereto. 11,380, H. C. Kemp, Pocket Finder for Photographers, also Applicable for Facilitating Drawing in Perspective and the like. 11,386, R. von Hagen, Connecting Together the Leaves of Hinges. 11,388, R. W. Tayler, Guards for Circular Saws. 11,399, J. G. Breitholtz, Handle for Screw Drivers, &c. 11,400, T. A. Ellin, Pincers, Nippers, Hand Vices, and Similar Tools. 11,407, C. H. Breakwell, Adjustable Spanners. 11,412, Hebb & Squire, Circular Saw Benches. 11,441-2, J. A. Jensen, Dynamos and Stoves or Heating Apparatus with Superposed Fire-grates. 11,445, R. Lowry, Lavatory or Washhand Basin Fittings. 11,447, T. C. Sanderson, White Lead Paint. 11,452, A. B. Vanes, Parallel Rulers. 11,455, G. E. Fletcher, Automatic Electric Circuit Breakers and Restorers. 11,462, M. J. Adams, Water-closets. 11,463, Spences, Treatment of Sewage. 11,471, J. Price, Spanners, Wrenches, and Pipe-grips. 11,475, W. Foster, Colliery Winding Cages, Hoists, &c. 11,478, J. Simpson, Soldering and Brazing Joints, Seams, &c. 11,489, A. Novitzki, a Beading or Moulding Plane. 11,493, Browne & Others, Construction of Breakwaters, Harbours, Groynes, &c. 11,509, Schwartz & Rayman, Cleaning Wall Papers and Distempered Surfaces. 11,516, W. C. Hughes, a Spray or Shower Bath. 11,522, T. C. Sanderson, White Lead. 11,526, F. Voigtmann, Fireproof Windows.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

May 18.—By STAFFORD & ROGERS (at Peterborough).

West Deeping, Lincs.—"The Manor Farm," 134 a. 1 r. 35 p.	£5,000
Four freehold cottages, r. 18*l.* 16s.	290

By MATTHEW MILES (At Masons' Hall Tavern).

Southwark.—Tabard-st., "The Crown Tavern," a building lease for 80 yrs., from Lady Day 1900, g.r. 150*l.*	1,500

By T. WOODS (at Hounslow).

Hounslow, Middx.—126 to 132 (even), High-st., f., r. 146*l.* 4s.	2,650
1 to 4, Emma Cottages, c., r. 52*l.*	590
1 and 2, Rose Villas, f., r. 38*l.*	500
Hanworth-rd., five plots of building land, f.	435

By MESSRS. ROYCE (at Uppingham).

Marcott, Rutland.—A freehold Farmhouse and 4 a. 0 r. 25 p.	410
An enclosure of land, 8a. 2 r. 0 p., f.	340
Manton, Rutland.—Two enclosures, 18 a. 0 r. 9 p., f. and c.	632

By HORACE HURMAN (at Bridgewater).

Spaxton, Som.—"Crossfield Farm," 110 a. 0 r. 11 p., f.	5,400

May 19.—By HENRY HENDRIKS (at Birmingham).

Birmingham.—Little Broom-st., a plot of land, f.	735
47 to 69 (odd), Heath-st., u.t. 86 yrs., g.r. 36*l.*	1,320

By NEASOM & WHITE (at Birmingham).

Studley, Warwick.—"The Gorcott Hall Estate," 70 a. 1 r. 15 p., f.	3,000

By W. LUDLOW & BRISCOE (at Birmingham.)

Hampton-in-Arden, Warwick.—"Barston Farm," 19 a. 1 r. 34 p., f.	905
Beoley, Worcester.—"Pink Green Farm," 104 a. 0 r. 37 p., f.	1,465

By J. O. COOPER & SON (at Wokingham).

Wokingham, Berks.—Enclosures of land, 8 a. 0 r. 12 p., f.	1,100
Langboro'-lane, two enclosures, 3 a. 3 r. 11 p., f.	535
"Batty's Barn Farm," 45 a. 1 r. 3 p., f.	7,500
Langboro'-rd., &c., three freehold cottages	800

By PAXTON & HOLIDAY (at Banbury).

Horley, Oxon.—A freehold farmhouse and 140 a. 2 r. 0 p. (including timber)	4,135

By BENINGFIELD & SHARMAN.

Cricklewood.—4, Albion-ter., f., r. 30*l.*	370
Brixton.—50, Arlingford-rd., u.t. 76 yrs., g.r. 8*l.* 10s., r. 38*l.*	360

By ALFRED BOWYER.

Enfield.—Browning-rd., an enclosure of building land, 1 a. 2 r. 17 p., f.	460
3, 4, and 5, Browning-rd., u.t. 92 yrs., g.r. 15*l.*	375

By COURTENAY, WELLS & CO.

Penge.—199, Maple-rd., f., r. 60*l.*	850
Fulham.—76, Rosaville-rd., u.t. 79 yrs., g.r. 5*l.*	275
Limehouse.—7, 8, 9, and 10, Nightingale-lane, u.t. 64 yrs., g.r. 15*l.*	545

By J. B. ROSEVEAR.

Fulham.—2, Favart-rd., u.t. 81½ yrs., g.r. 7*l.*, r. 40*l.*	470
88, Bishop's-rd., u.t. 78½ yrs., g.r. 6*l.*, r. 32*l.*	305

By H. J. BLISS & SONS.

Spitalfields.—52 to 66 (even), Hanbury-st., u.t. 21 yrs., g.r. 140*l.*	1,480
Bethnal Green.—3, Medhurst-rd., u.t. 53½ yrs., g.r. 3*l.*	255
74, Coventry-st., u.t. 32½ yrs., g.r. 5*l.*	115
Victoria Pk.—105 and 107, Bishop's-rd., u.t. 42 yrs., g.r. 10*l.*, e.r. 90*l.*	805

By NEWBON, EDWARDS, & SHEPHARD.

Stoke Newington.—205, Green-lanes, u.t. 60 yrs., g.r. 12*l.*, e.r. 80*l.*	700
Poplar.—273, East India Dock-rd., u.t. 24 yrs., g.r. 3*l.*, r. 50*l.*	250
Barnsbury.—46 and 48, Thornhill-rd., and 51 to 59 (odd), John-st., u.t. 10½ yrs., g.r. 35*l.*, r. 79*l.* 10s.	195
Islington.—22 and 23, Alfred-st., u.t. 28 yrs., g.r. 10*l.*, r. 98*l.*	555
Gray's Inn-rd.—10 and 12, Compton-st., u.t. 20½ yrs., g.r. 31*l.* 10s., r. 100*l.*	530

By SPARROW & SON.

Finchley.—Friern Pk., "Clarence House" and 1 acre, f.	2,100
Friern Pk., "Raby House" and ¾ acre, f.	1,120

By STIMSON & SONS.

St. Pancras.—Euston-rd., f.g.r. 30*l.*, reversion in 4½ yrs.	5,525
84 and 86, Seymour-st., and 13, Charles-st., f., r. 118*l.* 8s.	1,620
138, 140, and 142, Seymour-st., f., r. 125*l.*	2,160
Seymour-st., f.g.r. 30*l.*, reversion in 32½ yrs.	870
Seymour-st., f.g.r. 49*l.* 10s., reversion in 34½ yrs.	1,350
Seymour-st., f.g.r. 28*l.*, reversion in 31½ yrs.	830
Seymour-st., f.g.r. 12*l.*, reversion in 33½ yrs.	365
Johnson-st., f.g.r. 27*l.*, reversion in 29½ yrs.	710
Little Clarendon-st., f.g.r. 129*l.*, reversion in 29½ yrs.	3,180
Aldenham-st., f.g.r. 43*l.*, reversion in 29½ yrs.	1,140
Stibbington-st., f.g.r. 120*l.*, reversion in 34½ yrs.	2,580

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
*Chapels, Offices, Lodge, &c.	Salford Corp.	50*l.* ; 30*l.*; and 20*l.*	Aug. 16

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered
*Painting, &c. R.A. Barracks	War Dept.	R.E. Office, Colchester	June 6
Pair Semi-detached Villas, Horton Bank Top, Bradford	,,	S. Spencer, Archt. 344, Gt. Horton-rd. Gt. Horton	June 7
Re-construction of Canal Bridge, &c. Aberdulais	Neath R.D.C.	D. M. Davies, Archt. 58, Water-st. Neath	do.
Footways, Cardiff, Merthyr, &c.	Glam. C.C.	County Surv. Town Hall, Bridgend	do.
Main Road Works, Newton Nottage, near Porthcawl	do.	do.	do.
Two Houses, Lower Ford-street	H. Dexter	G. E. Jenkins, C.E. Bank-chmbrs. Coventry	do.
*Underground Convenience	Poplar B. of W.	Surveyor's Offices, 117, High-street, Poplar, E.	do.
*Footbridge over Railway	do.	do.	do.
*Repairs to Tar and Asphalte Paving	Tottenham U.D.C.	P. E. Murphy, 712, High-road, Tottenham	do.
*Mortuary	Hatfield R.D.C.	The Clerk	June 8
Additions to Workhouse	Wareham & Purbeck Union	W. W. Fookes, Archt. Wareham	do.
Additions, &c. Stella Staith Hotel, near Blaydon	,,	J. Oswald, Archt. 33, Mosley-st. Newcastle-on-Tyne	do.
Road Materials	Winsford (Cheshire) U.D.C.	J. H. Cooke, Council Office	do.
Baptist Chapel, Bargoed, Glam.	,,	James & Morgan, Archts. Cardiff	do.
*Road Making	Croydon R.D.C.	Town Hall, Croydon	do.
*Road Making and Paving	Hammersmith Vestry	H. Mair, Town Hall, Hammersmith	do.
Sewers, Mile End-lane, &c.	Stockport Corp.	J. Atkinson, C.E. St Petersgate, Stockport	do
Villa, Talybont	W. J. Lewis	T. E. Morgan, Archt. Aberystwith	do.
Sewers, Princes Risborough	Wycombe R.D.C.	Taylor, Sons, & Co. Engr. 27, Great George-street, Westminster, S.W.	do.
Stable, Granary, &c.	Cleethorpes - with - Thrunscoe U.D.C.	E. Rushton, C.E. Poplar-rd. Cleethorpes, Grimsby	do.
Sea Wall, Eyemouth, Berwickshire	,,	Meik & Sons, Engr. 21, York-place, Edinburgh	do.
Additions to Farmsteading, Blairgowrie, N.B.	,,	J. Panton, Royal Bank, Blairgowrie	do.
*Church, Portsea	St. Stephen Church Committee	R. A. Crowley, 22, High-street, Croydon	do.
School, Old Aberdeen	Aberdeen School Bd.	J. A. O. Allan, Archt. 31, King-street, Aberdeen	June 9
Wool Warehouse, Canal-rd. Bradford	,,	Milnes & France, Archt. Bradford	do.
*Underground Convenience, Kilburn Wood Paving, Central Market Place	Hampstead Vestry	Surveyor, Vestry Hall	do.
Additions to Masonic Temple, Halifax road, Dewsbury	Heckmondwike U.D.C.	J. Saville, Surv. Council Offices	do.
Pavilion	,,	J. Lace Fox, Archt. Bond-street, Dewsbury	do.
Wrought Iron Pipes and Fittings	Elland (Yorks) Cricket Club	F. F. Beanmont, Archt. 2 Huddersfield-road, Elland	do.
Cast Iron Water Pipes	Waterworks Dept. Malta	E. De Petri, Receiver General, Valletta	June 10
Road Materials	Hetton Trustees	A. E. Chinn, The Close, Lichfield	do.
Two Houses, Belgrave-sq. Bridlington Quay	Hetton (Durham) U.D.C.	G. G. Forster, Surv. Hetton-le-Hole	do.
Sewer, Garndiffaith	J. Taylor	S. Dyer, Archt. Bridlington Quay	June 11
Tile Socket Pipes, Flixton, Lancs	Aberaychau U.D.C.	E. Cooke, Surv. Council Offices	do.
Bridge over River Nar, Westacre	Urmston & Flixton Joint Drainage Com.	Mr. Hooley, Surv. Council's Offices	do.
Re-building Holmbush Inn, Faygate, Sussex	Norfolk C.C.	T. H. B. Heslop, C.E. Shire Hall, Norwich	do
Electric Power Station, Kelham Island	,,	W. Buck, Archt. Horsham	do
Completing Custom House, Queenstown	Sheffield Corp.	C. F. Wike, C.E. Town Hall, Sheffield	June 13
*Underground Convenience	Board of Public Works Ireland	H. Williams, Office of Public Works, Dublin	do.
*Wood Paving	Willesden D.C.	O. C. Robson, Offices, Dynes road, Kilburn	June 14
Unitarian Church, Cilfan Aeron, Wales	do.	do.	do.
*Making-up Streets	,,	Rev. L. Williams, Bedlwyn, Talsarn, R.S.O. South Wales	do.
Schools, Accrington-road	Edmonton U.D.C.	G. E. Eachus, Town Hall, Lower Edmonton, N.	do.
Additions to Police Station, Chorley	Blackburn Sch. Bd.	Cheers & Smith, Archt 24, Richmond-terrace, Blackburn	do.
Flint Road Metal	Lancaster C.C.	H. Littler, Archt. County Offices, Preston	do.
*Art Gallery and Public Library	Epsom U.D.C.	E. R. Capon, Surv. East-street, Epsom	do.
Concrete Footpaths	Bury Corp.	Borough Engineer, Bank-street Bury	June 15
Two Public Houses, Worksop	Ashington U.D.C.	A. Wood, Market-place, Ashington, Northumberland	do.
Sewage Tanks, &c.	Worksop and Retford Brewery Co.	W. E. Warran, Surv. Dock-road, Worksop	do.
*Three Weighbridges	Salford Corp.	Borough Engineer, Town Hall	do.
Schools, House, &c. Annfield Plain, co. Durham	Islington Gdns.	Offices, St. John's-road, Upper Holloway	June 16
Eight Houses, Waterworks-street, Bridlington	Trustees of Tanfield Lee Wesleyan Chapel	D. M. Spence, Front street, Annfield Plain	do.
Additions to Workhouse	Halstead Union	S. Dyer, Archt. Bridlington Quay	do.
*Police Station	Hertford Standing Joint Committee	R. L. Hughes, Union Offices, Hale-end	do.
*Excavating and Foundation Works	Berks County Asylum	U. A. Smith, 41, Parliament-street, S.W.	do.
		G. T. Hine 35, Parliament-street, S.W.	June 17

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Two Shops and House, Southgate, Elland	,,	G. Hepworth, Archt Brighouse	June 17
Alterations to Clapham Church, near Lancaster	,,	J. F. Curwen, Archt. Hilgate, Kendal	do.
Additions to Workhouse	Cerne Abbas (Dorset) Union	J. Feacey, Archt. Dorchester	June 18
Pumping Station, Laira Green	Plymouth Corp.	J. Mansergh, C.E. 5, Victoria-street, Westminster, S.W.	do.
School Extension, Charter-street, Manchester	Committee	Maxwell & Tuke, Archt. 41, Corporation-street, Manchester	do.
*Sewers, &c.	Paddington Vestry	Surveyor, Vestry Hall, Harrow-road, W.	June 20
*Erection and Alteration of School Buildings	Governors of Palmers' Endowed School	C. M. Shiner, 2, Walbrook, E.C.	do.
Road Bridge, Penistone-road	Sheffield Corp.	C. F. Wike, C.E. Town Hall, Sheffield	do.
Sewage Works	Totnes Corp.	W. F. Tollit, Boro. Surv. Gate House, Totnes	do.
Grammar School, &c. Knaresborough	Governors	Barrowcliffe & Alcock, Archt. Mill-street, Loughborough	do
*Enlarging Post Office at Exeter	Commrs. H.M. Works	12, Whitehall-place, S.W.	June 21
Wing and Laundry at Infirmary	Stockport Infirmary Committee	Woodhouse & Willoughby, Archts. 100, King-street, Manchester	June 22
Road Materials (2,000 tons)	Brierfield (Lancs.) U.D.C.	J. T. Landless, C.E. Station-buildings, Nelson	June 25
*Sewers, Manholes, &c.	Ashby-de-la-Zouch U.D.C.	J. B. Everard, Millstone-lane, Leicester	do.
Road Works, Woolmanhill	Aberdeen T.C.	W. Dyaik, Burgh Surv. Town House	June 26
*Superstructure of Asylum near Epsom	L.C.C. Asylums Com.	G. T. Hine, 35, Parliament-street, S.W.	June 27
*Erection of Buildings, Supply of Electric Machinery, Tram Cars, Plant, &c.	East London Town Council (Carw)	Dyer & Dyer, 17, Aldermanbury, E.C.	June 28
Additions to Infirmary	Workington Union	F. W. Jackson, Union Offices	do.
*Nurses' Home at Infirmary	Wandsworth and Clapham Union	Lansdell & Harrison, 38, Bow-lane, E.C.	June 29
Additions to Infirmary, Bow Bridge-road, Newark	,,	Sheppard & Harrison, Archt. Kirkgate, Newark	June 30
*Re-drainage of Asylum Water Reservoirs, &c.	Kent County Asylums Com.	W. J. Jennings, 4, St. Margaret's-street, Canterbury	do.
Restoration of Church, Addingham, near Carlisle	,,	G. Dale Oliver, Arcnt Carlisle	do.
*Sewerage Disposal and Water Supply (Plans and Estimates for)	Linslade U.D.C.	R. J. Platten, Clerk, Linslade, Leighton Buzzard	July 1
*First Section of Hospital	Met. Asylums Bd.	A. & C. Harston, 15, Leadenhall-street, E.C.	July 6
Villa, Purston, near Pontefract	W. Cowling	Garside & Keyworth, Archt. Pontefract	No date
Two Shops, Roundhay, Leeds	,,	J. E. Preston, Archt. 32, Northbrook-st. Chapel-Allerton	do.
Banking Premises and House, Alston, near Carlisle	Carlisle and Cumberland Banking Co. Ld.	Johnstone Bros. Archt. 39, Lowther-st. Carlisle	do.
Villa, Maldon-road, Colchester	,,	C. E. Butcher, Archt. 3, Queen-st. Colchester	do.
Widening Loven County Bridge, near Yarm	North Riding C.C.	W. Stead, C.E. Northallerton	do.
Additions, &c. to National Schools, Wormley, near Broxbourne	,,	Newman & Newman, Archt 31, Tooley-st. London Bridge, S.E.	do.
Building Work, Porthkerry House, Barry, Glam.	J. Cory	Jones & Co. Archt. 18, St Mary-st. Cardiff	do.
Additions to Inn, Old Lodge-road, Belfast	E. Smith	T. V. Brennan, Archt. 21, Waring-street, Belfast	do.
Reservoir, Oakworth, near Keighley	,,	Judson & Moore, Archt. Keighley	do.
Factory, Lewin's Mead, Bristol	,,	F. Shove, Archt 8, Colston-avenue, Bristol	do.
Additions to Drill Hall, Carlisle	,,	G. D. Oliver, Archt. 5 Lowther-st. Carlisle	do.
Hotel Portland, West Bars, Chesterfield	W. Stones, L'd.	J. R. Wigfull, Archt. 14, Parade-cmbrs. Sheffield	do.
Two Shops, &c. Haltwhistle, Cumberland	W. Bell	H. Higginson, Archt. Carlisle	do.
Additions to Schools, Garden-street	Mexborough Sch. Bd.	G. White, Archt. Mexborough	do.
Additions to Dalston Hall, Cumberland	E. W. Stead	J. W. Benwell, Archt. 33, Lowther-st. Carlisle	do.
Whinstone Causewaying	Grangemouth (N.B.) Commrs.	A. & W. Black, C.E. Falkirk	do.
Additions to Police Station, Stone	Staffs. C.C.	W. H. Cheadle, Archt. Stafford	do.
Restoration, Lingwood Church, Norfolk	,,	A. J. Lacey, Archt. 6, Upper King-st. Norwich	do.
Distillery, Nevis Bridge, Fort William, N.B.	,,	Dun Cameron, Archt. Inverness	do.
Additions to Business Premises, Hanley, Staffs.	G. Howson & Sons, Ltd.	E. Jones, Archt. 10, Albion-street, Hanley	do.
Auction Mart and Shops, Botchergate, Carlisle	,,	J. Graham, Archt. Bank-chmbrs. Carlisle	do.
Eight Shops and Houses, Castleton, near Rochdale	W. H. Lawton	G. A. Hammond, Archt. Rochdale	do.
*New Buildings at Workhouse	Guildford Union	Peak & Lunn, 36, High-street, Guildford	do.
Sixteen Houses, Goldthorpe, near Doncaster	W. H. Priest	J. R. Dodds, C.E. 19, Baxtergate, Doncaster	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in.
*Chief of Surveyor's Dept.	Poplar B. of W.	Commence 500*l.* per an. offices and assistants	June 7
*Clerk of Works	Hackney Union	3*l.* 3*s.* per week	June 8
*Inspectors of New Buildings and Drainage Works (Two)	Hornsey U.D.C.	160*l.* per annum	June 13
*Clerk of Works	Wimbledon U.D.C.	3*l.* 3*s.* per week	do.
*Building and Sanitary Inspector	Bingley U.D.C.		June 14
*Surveyor, Collector, Inspector of Nuisances, &c.	Consett U.D.C.	180*l.* per annum	June 15

Those marked with an asterisk (*) are advertised in this Number. ***Competitions, p. iv.*** ***Contracts, pp. iv. vi. vii. & viii.*** ***Public Appointments, pp. xix. & xxi.***

Kensington.—Kensington-pl., f.g.r. 20*l.*, reversion in 51 yrs. £670
Dartmoor-st., f.g.r. 42*l.* 10*s.*, reversion in 51 yrs. 1,270
William-st., f.g.r. 5*l.*, reversion in 51 yrs. 135
Walworth.—Content-st., f.g.r. 45*l.*, reversion in 79½ yrs. 1,160

By C. C. & T. MOORE.

Peckham.—Peckham Pk.-rd., &c., i.g.r. 45*l.* 10*s.*, u.t. 34 yrs., g.r. 21*l.* 460
Peckham Pk.-rd., i.g.r. 67*l.*, u.t. 38½ yrs., g.r. 40*l.* 415
Peckham-Pk.-rd., &c., i.g.r. 50*l.*, u.t. 17 yrs., g.r. 28*l.* 10*s.* 210
Lower Pk.-rd., i.g.r. 30*l.*, u.t. 30½ yrs., g.r. 15*l.* 230
Frensham-st., i.g.r. 16*l.*, u.t. 17 yrs., g.r. 1*s.* 6*d.*, with reversion for 20 yrs. 290
Park-st., &c., i.g.r. 40*l.*, u.t. 31½ yrs., g.r. 20*l.* £290
Commercial-rd., &c., i.g.r. 240*l.*, u.t. 32½ yrs., g.r. 100*l.* 2,150
Commercial-rd., profit rentals of 46*l.* 5*s.* for 17 yrs. 370
Trafalgar-sq., f.g.r. 15*l.* 10*s.*, reversion in 41 yrs. 250
Nelson-sq., f.g.r. 48*l.* 6*s.*, reversion in 41½ yrs. 1,280
Haymerle-rd., f.g.r. 35*l.*, reversion in 41½ yrs. 720
Peckham Pk.-rd., f.g.r. 24*l.* 7*s.*, reversion in 42 yrs. 540
Frensham-st., &c., f.g.r. 102*l.* 10*s.*, reversion in 15 yrs. 3,080
Peckham Pk.-rd., f.g.r. 70*l.*, reversion in 19 yrs. 1,200
Peckham Pk.-rd., a peppercorn g.r., reversion in 15 yrs. 2,900
Wandsworth.—Plough-rd., f.g.r. 35*l.*, reversion in 91 yrs. £950
St. John's Hill, &c., f.g.r. 100*l.*, reversion in 35 yrs. 2,200
St. John's Hill, f.g.r. 13*l.* 16*s.*, reversion in 49 yrs. 540
St. John's Hill, f.g.r. 180*l.*, reversion in 96 yrs. 5,030
St. John's Hill, "Surrey Hounds" p.-h., &c., f.g.r. 50*l.*, reversion in 64 yrs. 1,670
Burntwood-lane, &c., a parcel of land, 8 a., f. 3,550

By J. H. BETHELL (at Barking).

Barking.—Longbridge-rd., 11 plots of building land, f. 1,139
Park-av., 126 plots of building land, f. 7,254

May 20.—By THOMAS MARTIN (at Exeter).

Exwick, Devon.—A Moiety of "Gidley's Marsh," 6 a. 2 r. 29 p., f. 850

Five freehold cottages and 1 a. 1 r. 12 p..... £635
Various enclosures of land, 95 a. 2 r. 9 p., f. 4,650
Whitestone, Devon.—Enclosures of land ("lakes"), 22 a. 0 r. 29 p., f. 515
"Trillow Farm," 117 a. 1 r. 39 p., f..... 2,200

By SLEE & SONS (at Barnstaple).

Yarnscombe, Devon.—"Cogworthy Farm," 167 a. 2 r. 8 p., f. 1,750

By VERNON & SON (at High Wycombe).

Radnage, Bucks.—"Radnage House and Pond Farm Estate," 215 a. 3 r. 28 p., f..... 4,025

By J. ANTHONY LOCKE (at Banbury).

Bodicote, Oxon.—Two freehold residences, r. 38*l.* 10s. 660
A freehold house and three cottages, r. 29*l.* 9s... 380

By E. HOLSWORTH.

Stoke Newington.—185, Church-st., u.t. 6½ yrs., g.r. 15*l.*, r. 52*l.* 325
Clapton.—68, Rendlesham-rd., f., e.r. 38*l.* 510

By WAGSTAFF & SONS.

Holloway.—4 and 6, Hampden-rd., u.t. 80 yrs., g.r. 10*l.*, r. 63*l.* 490
Caledonian-rd.—118 to 132 (even), Pembroke-st., u.t. 51½ yrs., g.r. 32*l.*, r. 283*l.* 8s. 1,360

By G. GOULDSMITH, SON, & CO.

Chelsea.—37, Ovington-st., u.t. 33 yrs., g.r. 6*l.*, r. 45*l.* 520
13 and 29, Beauchamp-pl., u.t. 25 yrs., g r. 18*l.*, r. 113*l.* 1,155
32, Chapel-pl., u.t. 25 yrs., g.r. 5*l.*, r. 26*l.* 185
13, 14, and 15, Sloane-st.; also 17, 19, and 21, Pavilion-rd., u.t. 18 yrs., g.r. 110*l.*, e.r. 835*l.* . 8,975
South Kensington.—25, Gilston-rd., u.t. 35 yrs., g.r. 11*l.*, r. 110*l.* 1,200
48, Drayton-gardens, u.t. 45½ yrs., g.r. 2*l.*, r. 83*l.* 1,000
Chelsea.—79, Limerston-st., u.t. 46 yrs., g.r. 6*l.*, r. 40*l.* 420

By PRICKETT & VENABLES.

Hampstead-rd.—7, Harrington-sq., u.t. 43 yrs., g.r. 11*l.*, r. 75*l.* 730
Bloomsbury.—33, Southampton-row, u.t. 46 yrs., g.r. 15*l.*, r. 130*l.* 1,870
32, Museum-st., u.t. 44 yrs., g.r. 36*l.*, r. 125*l.* .. 1,510
43, Great Russell-st., u.t. 45 yrs., g.r. 18*l.*, r. 200*l.* 2,620
Regent's Pk.—5, St. Andrew's-pl., and 9, Albany-mews, u.t. 24 yrs., g.r. 50*l.* 12s., r. 160*l.*..... 810

By ROUCH & PARKHOUSE.

Finchley.—8, Larkhall-pl., u.t. 83¼ yrs., g.r. 10*l.* 10s., r. 60*l.* 1,000
Baronsmere-rd., "Ardinglye," "Northernhay," and "Pevensey," u.t. 85 yrs., g.r. 18*l.* 9s., r. 113*l.* 1,135
Stroud Green.—18, Granville-rd., u.t., 80 yrs., g.r. 10*l.*, r. 58*l.* 640
Kentish Town.—25, Grafton-rd., u.t. 50½ yrs., g.r. 5*l.* 5s., r. 45*l.* 400
Haggerston.—15 and 114, Laburnam-st., f., r. 55*l.* 18s..... 640
Walthamstow.—8, 10, 12, and 14, South-grove, u.t. 81 yrs., g.r. 12*l.* 550
Clapham.—13, Hazelrigge-rd., u.t. 64 yrs., g.r. 5*l.* 10s., e.r. 40*l.* 320
Crouch Hill.—39, Ashley-rd., u.t. 76½ yrs., g.r. 11*l.* 10s., r. 55*l.* 600

By G. A. WILKINSON & SON.

Brixton.—Hayter-rd., i.g.r. 115*l.* 9s., u.t. 69 yrs., g.r. 12*l.* 10s..... 2,690
Hayter-rd., i.g.r. 112*l.* 17s., u.t. 69 yrs., g.r. nil. 2,580
Bonham-rd., i.g.r. 25*l.*, u.t. 69 yrs., g.r. nil. 520
Winslade-rd., i.g.r. 76*l.* 6s., u.t. 69 yrs., g.r. nil 1,670
Sudbourne-rd., &c., i.g.r. 111*l.* 15s., u.t. 69 yrs., g.r. nil 2,420
Sudbourne-rd., i.g.r. 89*l.* 2s., u.t. 69 yrs., g.r. 1*l.* 12s. 1,910
Branksome-rd., i.g.r. 45*l.*, u.t. 69 yrs., g.r. 1*l.* .. 900
Dulwich.—92, Alleyn-rd., u.t. 45 yrs., g.r. 4*l.* 1s. 4d., r. 45*l.* 250

By F. J. BISLEY & SONS.

Bermondsey.—51 to 57 (odd), Yalding-rd., u.t. 68¾ yrs., g.r. 23*l.* 1,360
1 to 6 and 9 to 12, Cadbury-rd., u.t. 68¾ yrs., g.r. 46*l.* 2,620
17 and 19, Reverdy-rd., u t. 41½ yrs., g.r. 9*l.*..... 795
Rotherhithe.—242 and 244, Lower-rd., u.t. 19¼ yrs., g.r. 8*l.* 375
18, Credon-rd., u.t. 79¼ yrs., g.r. 5*l.* 300
16, 18, 20, and 22, Cornbury-rd., u.t. 77 yrs., g.r. 20*l.* 750
Fulham.—289, Lillie-rd., u.t. 80 yrs., g.r. 7*l.*, r. 28*l.* 250
Camberwell.—5 to 15 (odd), Rignold-rd., u.t. 68 yrs., g.r. 31*l.* 10s. 1,350

By HARMAN BROS.

Harringay.—96, Wightman-rd., f., e.r. 65*l.*..... 1,060
465, Green-lanes, u.t. 94 yrs., g.r. 9*l.*, r. 70*l.* 1,070
Clapton.—Rookwood-rd., "Hillsboro' House," u.t. 72½ yrs., g.r. 30*l.*, e.r. 120*l.* 250

May 21.—By F. PITTIS & SON (at Newport).

Godshill, Isle of Wight.—"French Mills" and 9 a. 2 r. 24 p., f. 900

May 23.—By WEATHERALL & GREEN.

Rotherhithe.—568 and 570, Rotherhithe-st., and a plot of land adjoining, f., r. 52*l.* 16s..... 480

By ELLIOTT, SON, & BOYTON.

Hyde Pk.—Gloucester-ter., i.g.r. 107*l.*, u.t. 39¾ yrs., g.r. nil 2,360
Marylebone.—Bryanston-sq., i.g.r. 52*l.* 10s., u.t. 11 yrs., g.r. nil 430
Paddington.—Porteus-rd., i.g.r. 20*l.*, u.t. 40½ yrs., g.r. 3*l.* 305

By MULLETT, BOOKER & CO.

Hyde Pk.—45, Albion-st. and 8, Albion-mews East, u.t. 24 yrs., g.r. 15*l.* 1,075

By EASTMAN BROS.

Forest Hill.—125 and 127, Sunderland-rd., u.t. 61 yrs., g.r. 20*l.* 14s., r. 92*l.* 635
Ramsgate, Kent.—15, Wellington-cres., f., r. 90*l.*.. 1,170

By MOSS & JAMESON.

Holloway.—21, Warrender-rd., u.t. 58 yrs., g.r. 7*l.*, r. 36*l.* 360
Norwood.—Beulah Hill, "Ash Tree," f., e.r. 65*l.*.. 675

By HARMAN BROS. (at Croydon).

Thornton Heath, Surrey.—1 to 7, Haddon-villas, f., r. 210*l.* 2,275

By HOLLIS & WEBB (at Leeds).

Headingley, Yorks.—"The Manor House" and "Old Manor House" estates, area 15 a., f. .. 12,175
Leeds.—75 to 85 (odd), West-st.; 2 and 3, Porritt's-yard; and 1 to 9 (odd), Croppergate, area 405 yds., f. 2,160
37 to 53 (odd), Wellington-rd., area 551 yd., f. .. £4,005

By W. LUDLOW & BRISCOE (at Birmingham).

Knowle, Warwick.—"Packwood Grange," and 9 a. 3 r. 6 p., u.t. 65 yrs., g.r. 36*l.* 16s. 9d. 2,960

By ROBERT PARRY (at Pwllheli).

Abererch, Carnarvon.—"Cefnpentref Farm," 45 a. 3 r. 34 p., f. 1,830

May 24.—By DEBENHAM, TEWSON, & CO.

Marylebone.—8, Baker-st., u.t. 26 yrs., g.r. 12*l.* 12s., r. 274*l.* 2,310

By JOHN BOTT & SON.

Herne Hill.—9, Spencer-rd, u.t. 80 yrs., g.r. 6*l.*, r. 37*l.* 10s. 335
Penge.—35 to 41 (odd), Raleigh-rd., u.t. 79 yrs., g.r. 20*l.* 580

By C. W. DAVIES.

Barnes.—132, Castelnau, u.t. 41 yrs., g.r. 2s. 6d., r. 60*l.* 890

By SEGRAVE, BROWETT, & TAYLOR.

Bow.—70 to 76 (even), Fairfoot-rd., u.t. 64½ yrs., g.r. 16*l.* 945
Hackney.—6, 8, and 18, Fassett-rd., u.t. 53 yrs., g.r. 16*l.* 5s., r. 96*l.* 790
Stepney.—1 to 11, Black Bull-court, area 5,000 ft., part f., and part u.t. 87 yrs., g.r. 22*l.* 660

By W. W. READ & CO.

Finchley.—Hendon-lane, two freehold building sites 180

By F. WARMAN.

Ramsgate, Kent.—Margate-rd., "Northwood Villa," and nearly 1 a., f., e.r. 70*l.* 755
Stroud Green.—37, Lancaster-rd., u.t. 78 yrs., g.r. 8*l.* 10s., r. 42*l.* 450

By WESTON & SONS.

Streatham.—6, Netherwood-ter., f., r. 35*l.*..... 525
Brixton.—27 and 29, Brading-rd., u.t. 83¼ yrs., g.r. 14*l.*, r. 67*l.* 625

By W. HOUGHTON.

Walthamstow.—Higham Hill, a freehold building estate, 16 a..... 3,000
148, Wood-st., and 26, North-rd., f..... 880
74, Milton-rd., f..... 230
147, Markhouse-rd., f. 560
337, Hoe-st., f. 510
Buckhurst Hill.—1 and 2, Florence Villas, f., r. 46*l.* 530

By RODWELL & SON (at Masons' Hall Tavern).

South Mimms, Middx.—"The White Hart" p.-h., f., with goodwill 4,900

By ORGILL, MARKS, & ORGILL (at Masons' Hall Tavern).

Addlestone, Surrey.—"The Holly Tree" p.-h., f. r. 116*l.* 3,750

By FLEURET, SONS & ADAMS (at Masons' Hall Tavern).

Pall Mall.—St. Martin's-st., "The Horse and Groom" p.-h., f., rental of 100*l.*, reversion in 48 yrs. 2,870
Bermondsey.—Jamaica-rd., "The Lilliput Hall" p.-h., f., rental of 100*l.*, reversion in 75 yrs. .. 3,050

By STEPHENSON & ALEXANDER (at Cardiff.)

Cardiff, Glamorgan.—Penylan-hill, "Clifton Hall," and 2 a. 0 r. 18 p., u.t. 90 yrs., g.r. 28*l.* 4,000

By HEPPER & SONS (at Leeds).

Leeds.—Cookridge-st., a block of business property, area 1,278 yds., f., r. 726*l.* 17,500
83 and 85, East-st., f., r. 27*l.* 12s. 400
Headingley, Yorks.—"The Highfield Estate," area 23,694 yrds., f. 10,110

By NICHOLSON, GREAVES & CO. (at Sheffield.)

Tickhill, Yorks.—"Limestone Hill Farm," 206 a., f., r. 225*l.* 9,545

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r.for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.

PRICES CURRENT OF MATERIALS.

TIMBER.

Greenheart, B.G. ton	8/0/0	0/0/0
Teak, E.I....load	9/0/0	14/0/0
Sequoia, U.S.ft.cu.	1/9/0	1/11/0
Ash, Canada, load	3/5/0	4/10/0
Birch, do.....	2/16/0	4/7/6
Elm, do	4/ /0	5/0/0
Fir, Dantsic, &c..	1/4/0	3/4/0
Oak, do.....	2/2/0	3/2/0
Canada	3/15/0	5/0/0
Pine, Canada red	0/0/0	0/0/0
Do. yellow	2/5/0	4/5/0
Lath, Dantsic,fath	4/10/0	5/10/0
St. Petersburg..	5/0/0	8/10/0
Wainscot, Riga, &c., log.....	5/0/0	6/10/0
Odessa, crown....	5/0/0	6/10/0
Deals, Finland 2nd & 1st std 100	8/5/0	8/15/0
Do. 4th & 3rd ..	8/5/0	8/15/0
Do. Riga	6/15/0	7/15/0
St. Petersburg, 1st yellow	10/5/0	12/15/0
Do. 2nd yellow.	9/5/0	10/15/0
Do. white.....	8/15/0	11/15/0
Swedish	9/5/0	15/15/0
White Sea	9/15/0	16/5/0
Canada, Pine 1st	19/5/0	25/5/0
Do. do. 2nd	13/15/0	16/5/0
Do. do. 3rd, &c.	6/5/0	9/15/0
Do. Spruce, 1st	10/10/0	12/0/0
Do. do. 3rd and 2nd	8/0/0	9/0/0
New Brunswick	7/0/0	8/0/0
Battens all kinds	5/0/0	18/0/0
Flooring boards, sq., 1 in. prep. 1st.....	9/6	17/9
Do. 2nd	8/0	13/6
Other qualities—	6/0	7/0
Cedar, Cuba, ft.	/4	/4½
Honduras, &c.	/3¾	/4½
Mahogany, Cuba	/5½	/7
St. Domingo, cargo av.	/4½	0/1/3
Mexican, do. do.	/3½	/4
Tobasco, do. do.	/4	/6½
Honduras, do.	/4	/6
Box, Turkey, ton	4/0/0	15/0/0
Rose, Rio	7/0/0	14/0/0
Bahia	6/0 0	12/0/0
Satin, St. Doming.	0/0/5	0/1/0
Satin, Porto Rico	0/0/6	0/1/6
Walnut, Italian ..	0/0/3	0/0/7

METALS.

Iron—Pig, in Scotland .....ton	2/6/3	0/0/0
Bar, Welsh, in London	5/15/0	5/17/6
Do. do. at works in Wales	5/10/0	5/12/6
Do. Staffordshire, in London.....	6/5/0	7/10/0
COPPER—British cake and ingot	55/5/0	55/10/0
Best selected ..	55/10/0	56/0/0
Sheets, strong..	61/0/0	61/10/0
Chili bars	51/0/0	0/0/0
YELLOW MTL. lb.	5d.	5½d.
LEAD—Pig Spanish ....ton	13/15/0	0/0/0
English com. bands	14/0/0	0/0/0
Sheet, English 6 lbs. per sq. ft. and upwards ..	15/0/0	0/0/0
Pipe.....	15/10/0	0/0/0
ZINC—English sheet.....ton	23/0/0	0/0/0
Vieille Montagne	23/10/0	0/0/0
Spelter	19/5/0	19/7/6
TIN—Straits	67/0/0	67/8/9
Australian.....	68/0/0	68/1r/0
English Ingots..	70/5/0	71/5/0
Banca	61/0/0	0/0/0
Billiton	59/15/0	60/0/0

OILS.

Linseed .....ton	16/12/6	0/0/0
Cocoanut, Cochin	27/15/0	0/0/0
Do. Ceylon.....	22/0/0	0/0/0
Palm, Lagos.....	21/15/0	0/0/0
Rapeseed, English pale	27/10/0	0/0/0
Do. Brown	26/0/0	0/0/0
Cottonseed ref....	14/5/0	15/5/0
Oleine.....	13/10/0	14/10/0
Lubricating U.S.	0/5/3	0/7/6
Do. Black	0/5/0	0/6/6
TAR—Stockholm barrel	1/5/0	0/0/0
Archangel	0/12/6	0/0/0
Turpentine	25/5/0	0/ /0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays*. N.B.—We cannot publish Tenders unless authenticated by the name and address of the sender; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under £100, unless in some exceptional cases and for special reasons.]

BOURNEMOUTH.—For the erection of a new residence, for Miss Seymour, at Southbourne-on-Sea, Hants. Mr G. A. Bligh Livesay, architect. Quantities by Messrs. Jennings & Goater:—

Miller & Sons	£2,269	W. Hoare	£2,194
Jenkins & Sons	2,236	J. McWilliam & Son*	2,140
F. Hoare & Sons	2,210		

* Accepted.

CONHOLT (Wiltshire).—Accepted for the erection of two cottages, for Mr. George Knowles. Messrs. Barnes-Williams, Ford & Griffin, architects:—
Annett & Son.....£473.

CONHOLT (Wiltshire).—Accepted for construction of billiard-room at Conholt-park for Mr. George Knowles. Messrs. Barnes-Williams, Ford & Griffin, architects:—
F. Beale £2,745

DARLINGTON.—Accepted for the erection of stabling, &c., for the Corporation:—
Excavators', Bricklayers', Stonemasons', and Plasterers' Work:
Thomas Boyd, Darlington £285 0
Carpenters' and Joiners', Plumbers', Glaziers', and Painters' Work.
Thomas Boyd, Darlington.....£194 0
Slaters' Work.
Wharton Brothers, Darlington £124 3

ELTHAM (Kent).—Accepted for the erection of fourteen cottages in Green-lanes, Eltham, for Mrs. John Bass. Mr. Albert G. Wright, architect, 2, Old Queen-street, Westminster:—
George Bush, Eltham £2,665 19

FARNHAM.—For the erection of four cottages for Mrs. Kelly. Mr. J. A. Eggar, architect, 11, West-street, Farnham:—

James Kimber	£1,330 10	Crosby & Co., Farnham (accepted)	£1,198 0
A. J. Figg	1,320 0		

GUILDFORD.—For erecting St. Saviour's Church, Guildford. Messrs. Henry S. Legg & Son, architects, Christ's Hospital, London:—

	For first portion.	For second portion.	Total
Mitchell Bros.	£6,104	£4,715	£10,819
P. C. May	5,940	4,843	10,783
Kingerlee & Son	5,702	4,017	9,719
Stanley Ellis	5,646	4,348	9,994
F Swayne & Son	5,499	4,072	9,571
Dove Bros.	5,282	4,305	9,285
Higlett & Hammond	5,226	3,972	9,198
W. Smith & Son	5,166	3,963	9,129
F. Goddard	5,029	3,826	8,855

HARROW (Middlesex).—Accepted for the construction of stoneware pipe sewers and for the construction and formation of roads, Greenhill Park Estate. Mr. A. Sykes, architect, 45, Finsbury-pavement, E.C.:—
Clift Ford, Harlesden, N.W. £1,700

HULL.—For the erection of two houses, Durham-street, Holderness road. Mr. H. Boden, architect, 21, Scale-lane, Hull. Quantities by the architect:—

T. Kendall	£1,123 13 8	Colley & Levitt	£873 0 0
Hockney & Liggins	898 0 0	W. Lison & Sons	870 12 0
W. Johnson	874 10 6		

IPSWICH.—For additions to California schools, for the School Board. Mr. T. W. Cotman, architect, Northgate-street, Ipswich. Quantities by Mr. Sidney Parmenter, Ipswich:—

T. Parkington & Son	£700 0	F. Bennett	£670 0
G. Kenney	657 10	W. Grayston	585 0
S. Kenney	644 0	A. Gayford*	511 0
G. Grimwood & Sons	635 0		

* Accepted.

IVER (Bucks).—For the erection of a pair of shops, High-street, Iver. Mr. Richard Peters, architect and surveyor, 73, Wood Exchange, E.C.:—
Marriage & Co. .....£1,590 | S. Bateman £1,470

LONDON.—For additions to the factory of the Lamson Paragon Supply Company, Ford's Park-road, Canning Town, E. Mr. T. Walker, architect, 5, West-street, Finsbury-circus:—

Chapman	£5,989	Harris & Wardrop	£5,597
Brown	5,912	Reason	5,479
Prosser	5,685	Duthwaite	5,437
Downes	5,649		

LONDON.—For alterations and additions to the workhouse, South-grove, Mile End, for the Whitechapel Guardians. Mr. Bruce J. Capell, architect, 72, Whitechapel-road:—

Yerbury	£8,930	Kiddle	£8,142
Knight	8,700	Jerrard	7,982
McCormick	8,545	Reason	7,799
Jones & Groves	8,244	Sheffield	7,689

LONDON.—For rebuilding 42, Jewin-street. Mr. L. Solomon, architect, 55, New Broad-street:—

		Extra for sub-basement.
Higgs & Hill	£4,140	£994 0
Holloway	3,898	850 0
Patman & Fotheringham	3,741	859 0
Cousell Bros.	3,593	776 0
Downes	3,497	820 0
Beer & Gash	3,387	762 0
Perry Bros.	3,387	650 10
Reason	3,239	750 0

LONDON.—For rebuilding 12, Jewin-crescent. Mr. L. Solomon, architect, 55, New Broad-street:—

Higgs & Hill	£1,843	Downes	£1,330
Holloway	1,756	Beer & Gash	1,297
Hall, Bedall, & Co.	1,531	Cousell	1 293
Patman & Fotheringham	1,491	Reason	1,199
Perry Bros.	1,337		

LONDON.—For the erection of house, Great Portland-street, for Mr. J. A. Mitchell. Mr. T. H. Smith, architect. Quantities supplied:—

Goode & Son	£3,323	Webber	£2,674
Beer & Gash	3,039	Staines	2,645
Holloway	2,930	N. Lidstone	2,617
Baxter	2,850		

LONDON.—For the erection of a warehouse, No. 1, Paradise-row, Bethnal Green, E. Mr. Richard Peters, architect and surveyor, 23, Wool Exchange, E.C.:—

Salt	£2,345	Marriage & Co.	£2,100
Jarvis & Sons	2,115		

LONDON.—Accepted for the erection of a pianoforte manufactory in Nursery-lane, Forest Gate, E., for Mr. T. J. Gilbert. Mr. Fred. A. Ashton, architect, 177, Romford-road, Stratford, E.:—
A. B. Hill.....£600

LONDON.—For alterations and redecorations of premises No. 13A, Red Lion-square, W.C., for the Board of Governors of St. Paul's Hospital for the Skin and Genito-Urinary Diseases. Messrs. Clark & Hutchinson, architects, 28, John-street, Bedford-row, W.C.:—

J. McMillan	£150	W. Tipton	£293
Parkinson & Son	385	J. Greenwood*	258
Wm. Sayer & Sons	313		

* Accepted.

LONDON.—For the erection of three shops and a beer house, Ben Jonson-road, Stepney, E. Mr. Richard Peters, architect and surveyor, 23, Wool Exchange, E.C.:—

Salt	£3,940	T. Parker	£3,795
Jarvis & Sons	3,875		

LONDON. — For rebuilding private residence, Grosvenor-street, W.:—
Walter Holt & Sons.....£13,000

LONDON.—For erecting new buildings, Lord's Cricket Ground, St. John's Wood, for Marylebone Cricket Club:—
Walter Holt & Sons, Croydon.....£8,110

LOWESTOFT.—For additions, &c., to Town Hall, for the Town Council, Mr. G. H. Hamby, C.E., Town Hall, Lowestoft:—

Jno. Ashby	£3,850	C. R. Cole	£3,498
Allerton & Daziel	3,820	G. E. Hawes, Norwich*	3,395
J. & B. Swatman	3,500		

* Accepted.

MIDDLETON ST. GEORGE (Co. Durham).—For the erection of superstructure, &c., of private asylum. Mr. J. W. Dyson, architect, 67, Grey-street, Newcastle-on-Tyne. Quantities by the architect:—

S. P. Davidson	£14,495 0 0	Thomas Beetham, West Hartlepool*	£13,160 5 0
Geo. Marshall & Son	13,806 12 6	J. Dickinson†	12,700 0 0
J. G. Gradon	13,315 0 0		

[All amended tenders.]
* Accepted. † Withdrawn.

NEWPORT.—For the rebuilding of premises, Nos. 121 and 122, Commercial-street, Newport, Mon., for Mr. Joseph Watkins. Messrs. Morgan & Hodge, architects and surveyors, Newport and Cardiff:—

C. Lock	£2,323	D. Parfitt	£2,191
A. Hazell	2,315	W. A. Linton	2,168
T. Westacott	2,315	T. G. Diamond	2,160
J. Linton	2,303	D. J. Davies	2,147
C. H. Reed	2,282	J. Moore	2,124
Lawson & Co.	2,279	G. F. Davies	2,095
W. C. Collier	2,200	J. Davies*	2,045
E. Richards	2,200		

* Accepted.

NEWPORT.—For the rebuilding of premises Nos. 29 and 30, Commercial-street, Newport, Mon., for Mrs. Coleman. Messrs. Morgan & Hodge, architects and surveyors, Newport and Cardiff:—

John Linton	£2,395	Chas. Hy. Reed	£2,200
William Moore	2,370	W. A. Linton	2 137
G. F. Davies	2,333	David Jones	2,065
T. G. Diamond	2,295	T. Westacott*	2,053
John Moore	2,249		

* Accepted.

PONTYMISTER.—For the erection of a house, Pontymister, Mon., for Dr. Callinan. Mr. C. Telford Evans, architect, Cardiff:—

D. Thomas	£918 0 0	D. Powell, 62, Tillery-street, Abertillery, Mon. (accepted)	£689 17 6
W. Jones & Son	867 0 0		
C. F. Morgan	855 0 0		
J. Pritchard	698 10 0		

RUSHDEN.—For the erection of house, shop, and bakehouse, for Mr. Saint. Mr. Harry Knight, architect:—

Whittington & Tomlin	£669 0	Frank Henson	£615 0
T. & C. Berrill	664 0	T. Willmott, jun.	609 10
Hacksley Bros.	639 0	R. Marriott, jun.	623 0
C. E. Bayes	637 0	Hy. Sparrow (accepted)	6.0 0

TWICKENHAM.—For the erection of new dining-hall, recreation room, class-room, tailor's shop, dormitory, &c., at Fortescue House, Twickenham, for the National Refuges for Homeless and Destitute Children. Mr. R. G. Hammond, architect, 16, Essex-street, Strand, W.C. Quantities by Mr. W. H. Elsmore, surveyor, 9, Carteret-street, Westminster:—

I. Norris & Sons	£2,456	J. W. Brooking	£2,265
T. Hiscock	2,432	G. Wade	2,258
A. J. Batchelor	2,289	T. Nye, Ealing*	2,217

* Accepted subject to arrangement.

WINDSOR AND CLEWER.—Accepted for the construction of about one and a half miles of iron and stoneware pipes, sewers, manholes and lampholes, also for constructing and forming roads, Alma Park Estate. Mr. T. V. Davison, C.E., engineer, Elmdale Chambers, Frances-road. Winds or:—
Clift Ford, Harlesden, N.W.....£3,230

WOODFORD.—For repairs at St. Mary's, High-road, Woodford, for Mr. J. Appleby. Messrs. Edward Brown & Son, surveyors, 161, Commercial-street, Bishopsgate:—
W. J. Sharp & Son.....£217 10 | Henry Wells & Sons....£128 10

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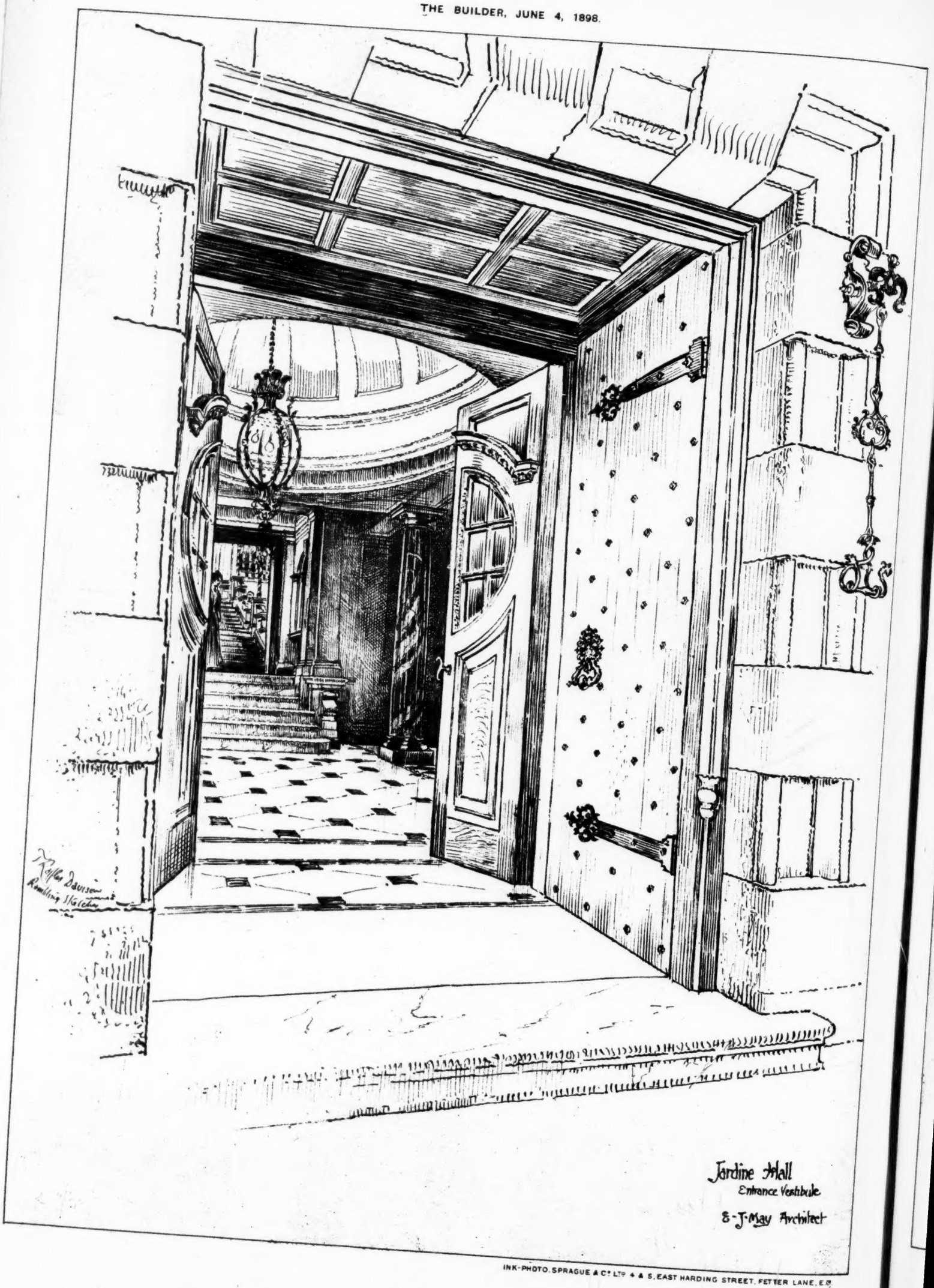

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E. J. May Architect

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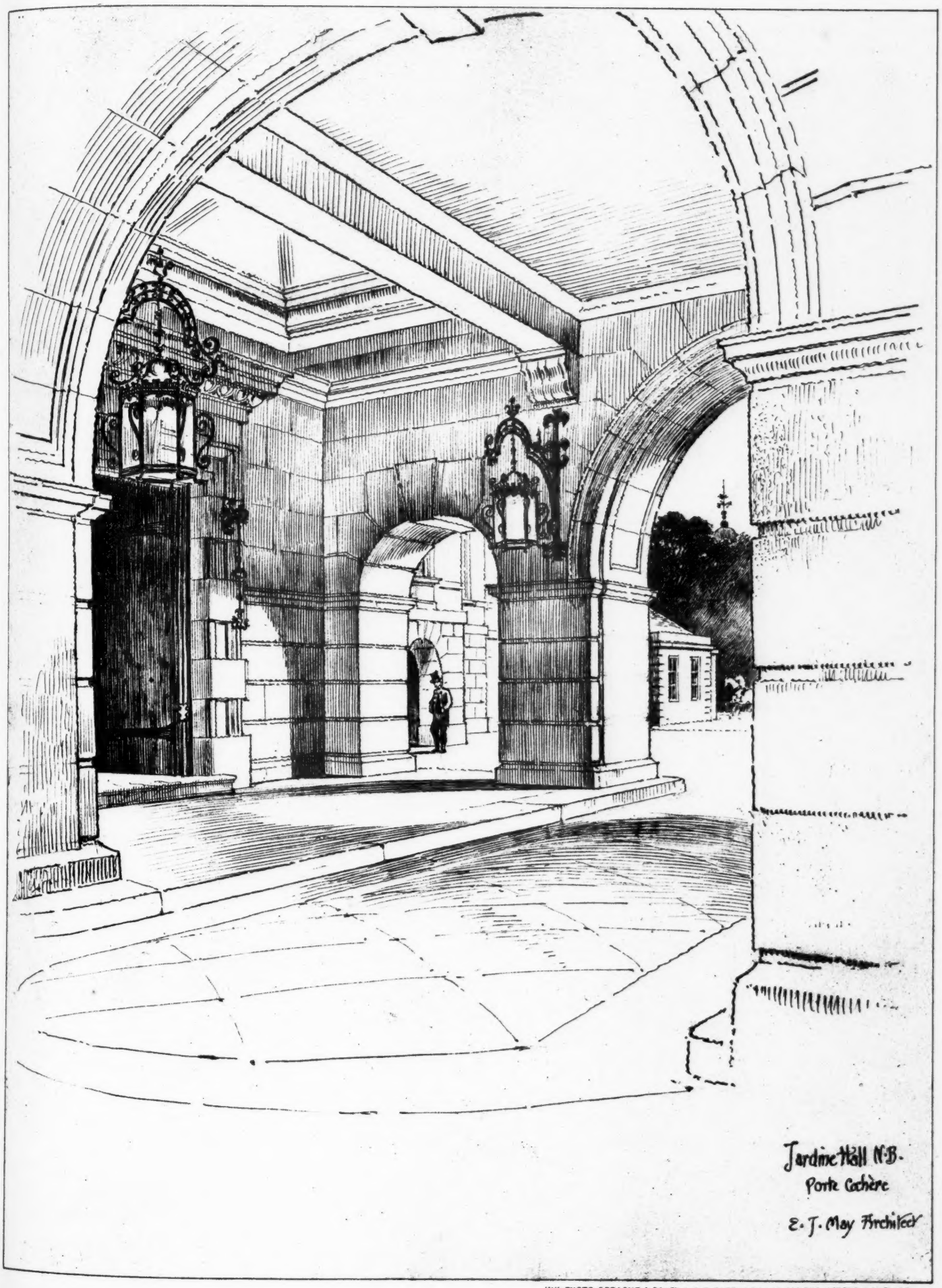

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Entrance Stairs
S. J. May Architect

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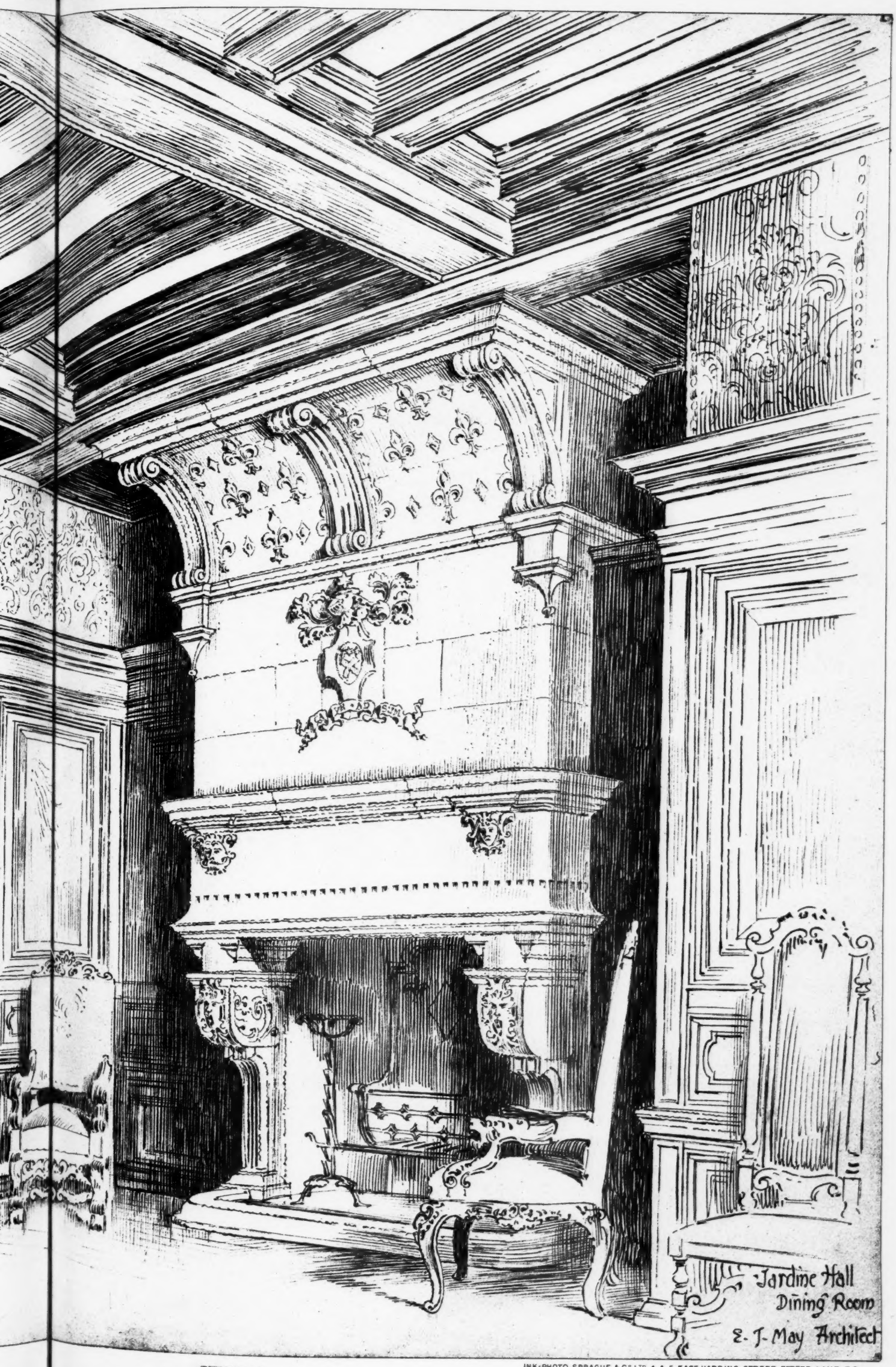

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Dining Room
E. J. May Architect

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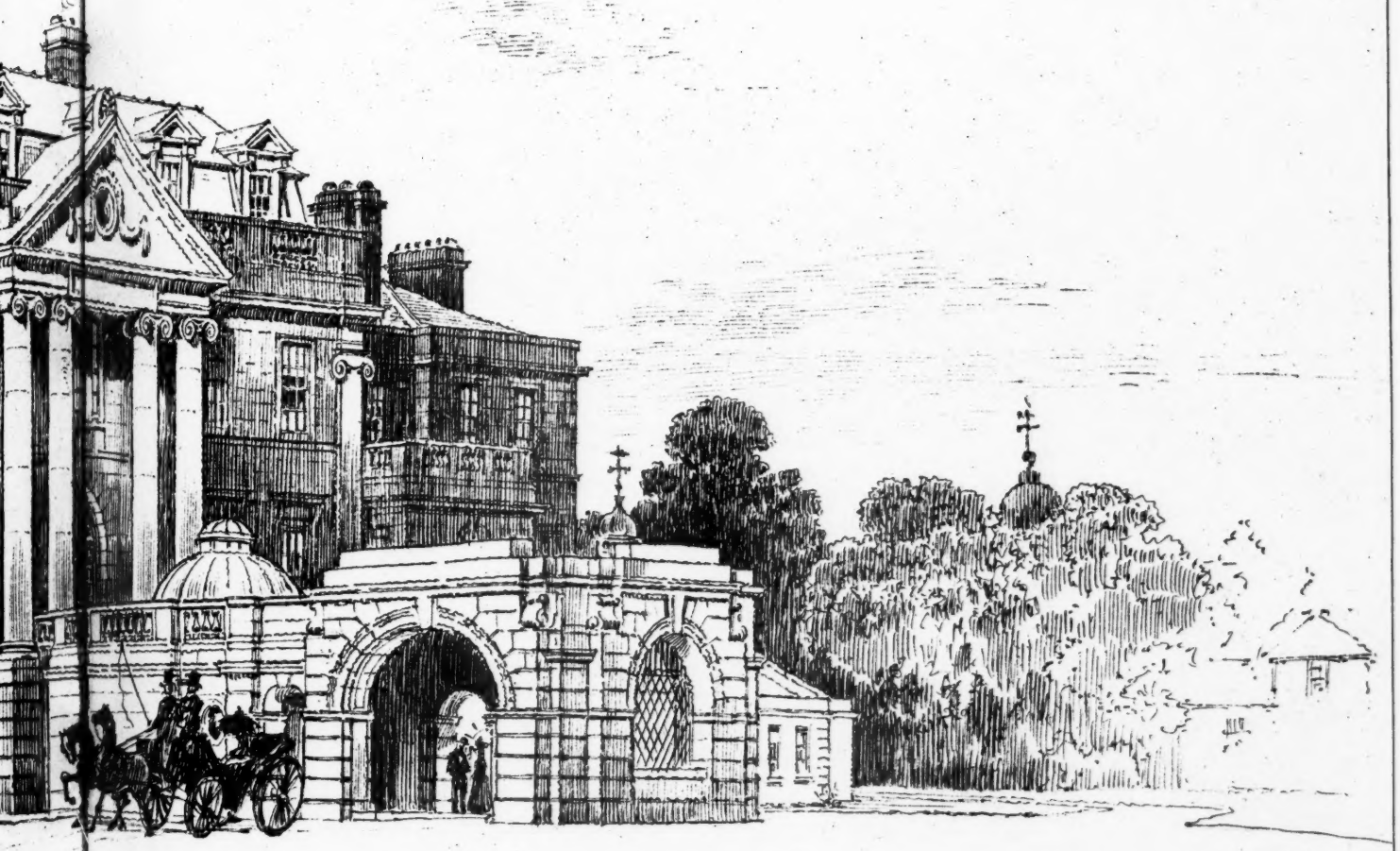

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